Lisha

BEFORE THE BOARD OF OIL, GAS AND MINING

DEPARTMENT OF NATURAL RESOURCES AND ENERGY

IN AND FOR THE STATE OF UTAH

IN THE MATTER OF THE PETITION OF PENNZOIL EXPLORATION & PRODUCTION COMPANY FOR 640-ACRE DRILLING AND SPACING UNITS FOR THE UPPER GREEN RIVER FORMATION IN CERTAIN LANDS OF THE BLUEBELL-ALTAMONT FIELD, DUCHESNE COUNTY, UTAH	FINDINGS OF FACT AND ORDER Docket No. 89-003 Cause No. 131-81

Pursuant to the Petition of Pennzoil Exploration & Production Company, this Cause came on for hearing before the Board of Oil, Gas and Mining at 10:00 a.m. on Thursday, March 23, 1989 in the Board Room of the Division of Oil, Gas and Mining, 3 Triad Center, Suite 301, 355 West North Temple, Salt Lake City, Utah. The following Board members were present:

Gregory P. Williams, Chairman

E. Steele McIntyre

Charles R. Henderson

Judy F. Lever

James M. Carter

Richard B. Larsen

Also present representing the Division were Dr. Dianne R. Nielson, Director; John R. Baza, Petroleum Engineer; and Barbara W. Roberts, Assistant Attorney General and Counsel to the

131-81

Division. Participating and representing the Bureau of Land Management (BLM) were Assad Raffoul (Utah State Office) and Jerry Kenczka (Vernal District Office). Appearing on behalf of Pennzoil Exploration & Development Company were Ralph A. Williams, Supervising Engineer, Gary L. Kornegay, Senior Geologist and Robert G. Pruitt, Jr. of Pruitt, Gushee & Fletcher, their Attorney. No other parties appeared or participated in the hearing.

FINDINGS OF FACT AND CONCLUSIONS OF LAW

1. Due and regular notice of the time, place and purpose of the hearing was given to all interested parties in the form and manner and within the time required by law and the rules of the Board.

2. The Board has jurisdiction over the matter covered by said Petition and over all parties interested therein, and has jurisdiction to make and promulgate the order hereinafter set forth.

3. In order to prevent waste of gas, oil and associated hydrocarbons, to avoid the drilling of unnecessary wells, and to protect correlative rights, 640-acre drilling units should be established for the production of gas, Oil and associated hydrocarbons from the Upper Green River formation underlying the described lands. This action will require modification of the Board's previous Order in Cause No. 131-2 as to such lands.

4. The Upper Green River formation should be defined as the interval from the top of the Green River formation down to the TGR_3 marker bed, a marker bed recognizable throughout the area, which is encountered at a depth of 9,748 feet in the Boren 3-11-A2 well situated in the SW¼SW¼ of Section 11, T. 1 S., R. 2 W., USM.

5. One well for each 640-acre tract will efficiently and economically produce the recoverable gas, oil and associated hydrocarbons from the Upper Green River formation underlying the described lands.

ORDER

The Board of Oil, Gas and Mining, having heard the testimony and comments of all participants, and having considered the testimony, evidence and exhibits submitted at the hearing, hereby enters the following Order:

1. Drilling units containing 640 acres, more or less, for the production of gas, oil and related hydrocarbons from the Upper Green River formation, as described herein, are established for the following lands in the Bluebell-Altamont Field:

Township 1 South, Range 2 West, USM

Sections 1 and 2: All

Section 3: All, except N½NW¼

Section 4: All

Sections 9 thru 12: All

Each designated drilling unit shall comprise the full surveyed government section, containing approximately 640 acres, except in the case of Section 3, which shall comprise 560 acres consisting of all of said Section 3 but excluding the N½NW¼ of said section.

2. The permitted well for each drilling unit shall be no closer than 660 feet from any quarter section boundary and not less than 3,960 feet from an existing well completed in the Upper Green River formation, with a variance of up to 150 feet for topographic purposes without prior approval, or otherwise as may be permitted by administrative action for topographic or geological reasons without the necessity of a formal Board hearing.

3. The "Upper Green River formation" is defined as comprising the interval from the top of the Green River formation, as encountered at a depth of 6,540 feet in the Boren 3-11-A2 well situated in the SW¼SW¼ of Section 11, T. 1 S., R. 2 W., USM, down to the base of the TGR_3 marker bed, encountered at a depth of 9,748 feet in the Boren 3-11-A2 well.

4. The Board retains continuing jurisdiction of all matters covered by this Order.

Entered this 27th day of March, 1989.

STATE OF UTAH BOARD OF OIL,
GAS AND MINING

By: _____
Gregory P. Williams, Chairman

Form 3160-5
(November 1983)
(Formerly 9-331)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Budget Bureau No. 1004-0135
Expires August 31, 1985

5. LEASE DESIGNATION AND SERIAL NO.: Fee

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

RECEIVED
JAN 22 1990
DIVISION OF OIL, GAS & MINING

1. OIL WELL [X] GAS WELL [ ] OTHER

7. UNIT AGREEMENT NAME:

2. NAME OF OPERATOR: Pennzoil Exploration and Production Company

8. FARM OR LEASE NAME: Clyde Murray

3. ADDRESS OF OPERATOR: P.O. Box 2967, Houston, TX 77252

9. WELL NO.: 1-2A2

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 1185' FSL and 1322' FWL (S1/2 SW 1/4)

10. FIELD AND POOL, OR WILDCAT: Bluebell - Wasatch

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 2, T1S, R2W

14. PERMIT NO.: API 43-013-30005-00

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 5928 (KB)

12. COUNTY OR PARISH: Duchesne

13. STATE: Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF		PULL OR ALTER CASING		WATER SHUT-OFF		REPAIRING WELL	
FRACTURE TREAT		MULTIPLE COMPLETE		FRACTURE TREATMENT		ALTERING CASING	
SHOOT OR ACIDIZE	X	ABANDON*		SHOOTING OR ACIDIZING		ABANDONMENT*	
REPAIR WELL		CHANGE PLANS		(Other)			
(Other) recomplete			X	(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Propose to plug back Wasatch perfs 12,835-13,172' and recomplete Upper Green River formation 6854-9839'.

OIL AND GAS	
DRN	RJF
1-JRB ✓	GLH
DTS	SLS
2-TAS	3-LCR
4 MICROFILM ✓	
5 FILE	

18. I hereby certify that the foregoing is true and correct

SIGNED Ralph C. Wall TITLE Supervising Engineer DATE 1/18/90

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:
See letter dated 2-1-90.

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 2-1-90
BY: John R. Baza

*See Instructions on Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Norman H. Bangerter
Governor
Dee C. Hansen
Executive Director
Dianne R. Nielson, Ph.D.
Division Director

State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

February 7, 1990

Mr. Ralph Williams
Pennzoil Exploration and Production Company
P.O. Box 2967
Houston, Texas 77252

Dear Mr. Williams:

Re: Recompletion of Wells to the Upper Green River Formation

The Division of Oil, Gas and Mining has received and reviewed two sundry notices dated January 18, 1990, concerning the recompletion of two wells in the Altamont-Bluebell area of Duchesne County to the Upper Green River formation. The two wells are described as follows:

per Wilburn Luna - plan to cancel the recompletion of the Clyde Murray #1-2A2 (RM. 5-21-90)

Clyde Murray #1-2A2 Well, Section 2, Township 1 South, Range 2 West
Blanchard #1-3A2 Well, Section 3, Township 1 South, Range 2 West

The Division hereby approves of the proposed recompletions under the conditions of the order in Cause No. 131-81 dated March 27, 1989. This order establishes drilling units for the Upper Green River formation of 640 acres for Section 2 and 560 acres for Section 3. In accordance with the order, the referenced wells will no longer be considered drilling unit wells for the Lower Green River-Wasatch formation, and they will be designated as drilling unit wells for the Upper Green River formation.

In addition, the following conditions of approval are set forth for the proposed recompletions:

1. Pennzoil shall evaluate the cement bonding of the casing over the proposed recompletion interval and perform the necessary work to ensure adequate cement protection above and below the objective producing horizon.

2. Upon completion of the workover, Pennzoil shall sumbit a complete subsequent notice of the work performed including a description of the intervals open in the wellbore and any casing repair work performed.

Thank you for your efforts to notify the Division of this matter. If you have any further questions or concerns, please contact me at this office.

Sincerely,

John R. Baza
Petroleum Engineer

cc: D. R. Nielson
R. J. Firth
Well files
OI2/276-277

Form 9-331C (November 1983)

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: FEE LAND

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

1a. TYPE OF WORK: DRILL XXX ☐ DEEPEN ☐ PLUG BACK ☐

b. TYPE OF WELL: OIL WELL ☐ GAS WELL XXXXXX ☐ OTHER — SINGLE ZONE XXXXX ☐ MULTIPLE ZONE ☐

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Duncan

2. NAME OF OPERATOR: PENNZOIL EXPLORATION & PRODUCTION COMPANY

9. WELL NO.: 4-2A2

3. ADDRESS OF OPERATOR: P.O. Box 290 Neola, Utah 84053

RECEIVED MAY 17 1990

10. FIELD AND POOL, OR WILDCAT: Bluebell/U Gr River (065)

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 1700' FSL & 660' FEL NESE
At proposed prod. zone: SAME

DIVISION OF OIL, GAS & MINING

CONFIDENTIAL

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: NESE Sec. 2, T1S, R2W.

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: About 10.9 miles Northwest of Roosevelt, UT

12. COUNTY OR PARISH: Duchsene | 13. STATE: UT

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 660' → 660' → Gr R none

16. NO. OF ACRES IN LEASE: 640

17. NO. OF ACRES ASSIGNED TO THIS WELL: 640

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: Wasatch 3337'

19. PROPOSED DEPTH: 9,300' Green River

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): ~~5979'~~ 5979' GL (UNGRADED)

22. APPROX. DATE WORK WILL START*: after 5-23-90

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
~~12 1/4"~~	~~8 5/8"~~	~~24~~	~~3,500'~~	4000 ft3
~~7 7/8"~~	~~5 1/2"~~	~~15.5 & 20~~	~~9,300'~~	1100 ft3

1. Enclosed attachments:
   a. Certified Location Plat.
   b. Drilling Plan.
   c. BOP Schematic.
   d. Map showing roadway to wellsite.
   e. Schematic showing...rig layout on wellsite.
   ...wellsite cross-sections.

TECHNICAL REVIEW
Engr. [redacted]
Geol. [redacted] OK 5/24/90
Surface [redacted]

2. Water permit: Water Right #t 90-43-03is on file with the State of Utah.

3. An AFE has been prepared and a copy has been sent to joint interest holders for their approval.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. Office (801) 353-4397 Home (801) 781-0620

SIGNED Wilburn L. Luna TITLE Drilling Superintendent DATE 5-17-90
Wilburn L. Luna

(This space for Federal or State office use)

PERMIT NO. 43-013-31276

APPROVAL DATE

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 5-30-90
BY: John R. Baza
WELL SPACING: Cause No. 131-81

APPROVED BY TITLE DATE

CONDITIONS OF APPROVAL, IF ANY:

UT-19das

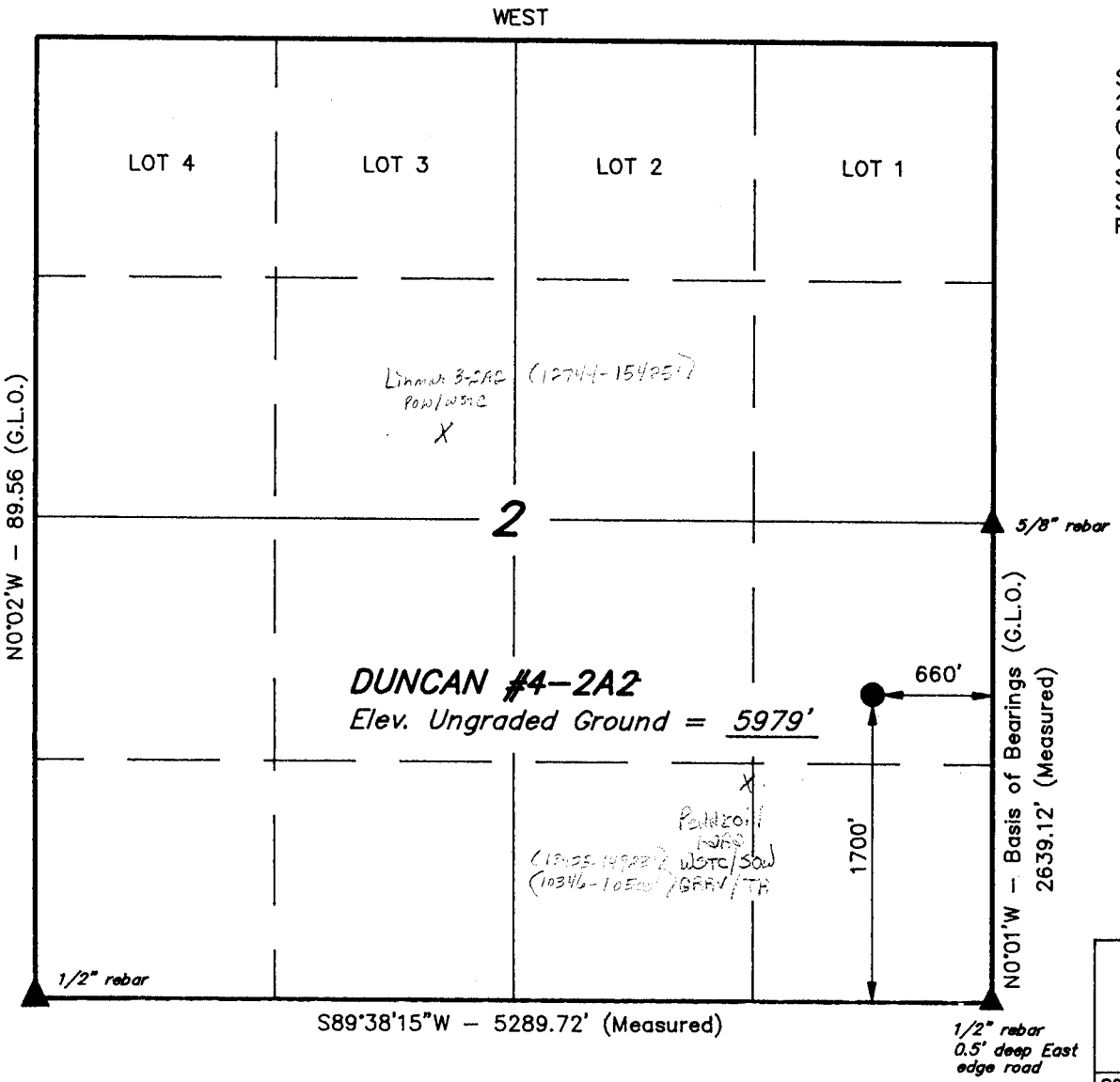
*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

PENNZOIL EXPLORATION & PRODUCTION CO.

Well location, DUNCAN #4-2A2, located as shown in the NE 1/4 SE 1/4 of Section 2, T1S, R2W, U.S.B.&M. Duchesne County, Utah.

T1S, R2W, U.S.B.&M.



▲ = SECTION CORNERS LOCATED.

BASIS OF ELEVATION

SPOT ELEVATION AT THE EAST 1/4 CORNER OF SECTION 2, T1S, R2W, U.S.B.&M. TAKEN FROM THE NEOLA QUADRANGLE, UTAH - DUCHESNE COUNTY, 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 6007 FEET.

CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Robert L. Kay

REGISTERED LAND SURVEYOR
REGISTRATION NO. 5709
STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING
P. O. BOX 1758 - 85 SOUTH - 200 EAST
VERNAL, UTAH - 84078

SCALE 1" = 1000'	DATE 5-15-90
PARTY G.S. J.F. W.J.R.	REFERENCES G.L.O. PLAT
WEATHER WARM	FILE PENNZOIL EXPL. & PROD. CO.

PENNZOIL EXPLORATION AND PRODUCTION COMPANY
P. O. BOX 290 • NEOLA, UTAH 84053 • (801) 353 - 4397

May 17, 1990

State of Utah, Dept of Natural Resources
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Re: Application for Permit to Drill
Duncan No. 4-2A2
1700' FSL & 660' FEL
NESE Section 2, T1S, R2W
Duchesne County, Utah

Gentlemen:

The original and two copies of captioned APD with attachments are enclosed for your review and I trust your approval. Pennzoil Exploration & Production Company requests that this APD and all related information submitted on this well be held confidential for that period of time as permitted by regulations and law.

Should there be any question, please contact the undersigned.

Sincerely,
Pennzoil Exploration & Production Company

Wilburn L. Luna

Wilburn L. Luna
Drilling Superintendent

Enclosure

UT-9

OPERATOR:.....PENNZOIL EXPLORATION & PRODUCTION COMPANY
WELL:.....Duncan No. 4-2A2
WELL LOCATION:.1700' FSL, 660'FEL
NESE Section 2, T1S, R2W
Duchesne County, Utah

1. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL FORMATIONS:

Duchesne River	at surface (surface formation)
Unita	near the surface
Green River	6,477'
Tg-2	7,002'
Z	7,314'
Evacuation Creek	7,479'
Trona	7,933'
Mahogany Bench	8,648'
Total Depth	9,300'

2. ESTIMATED OIL & WATER DEPTHS:

Water.....None anticipated
Top Green River production....gas @ 6,600'±
Mahogany Bench.....gas @ 8,648'±

3. PROPOSED CASING PROGRAM:

A. 14" conductor to be set and cemented at a proposed depth of 60'± and cemented to surface.

B. 8 5/8", 24#, K-55, LT&C, to be set and cemented at a proposed depth of 3,500'±.

Cement: Low density filler cement to surface. Tail-in with 250 sks Cl "G" or "H" tailored for depth and Temp.

C. 5 1/2", 15.5#, WC-70, LT&C to be set and cemented at a proposed depth of 9,300' in the Upper Green River

Cement: Low density (11.0#±) filler cement from 6,000' to surface. Tail-in (from T.D. to 6,000'±)with 50/50 Poz, 2%gel, 10% salt BWOW, 1.4#/sk cello-flakes, gas blocking & bonding agents with additives per Lab test.

4, OPERATOR`S PRESSURE CONTROL PLAN;

Figure No. 1 is a schematic of minimum BOP equipment.

The BOP equipment will be nippled up on the surface casing and pressure tested prior to drilling out:

A. All rams and choke manifold will be tested to 3000Psi.

B. Bag preventor will be tested to 50% of its rated working pressure.

C. The surface casing will be tested to 3000Psi.

D. Record all BOP tests on tour reports.

E. Retest BOP stack every 28 days.

F. Fill-up line above the Bag Type Preventer.

G. Kill line located below the BOP rams.

Operational Checks:

A. Pipe rams will be closed and opened once each 24 hours.

B. Blind rams will be closed and opened each time the drill string is pulled from the wellbore.

Auxiliary well control and monitoring equipment:

A. Upper and lower kelly cocks will be utilized.

B. A full-opening drill pipe stabbing valve with proper drill pipe fittings will be utilized when the kelly is not in the string.

C. Visual inspection will be used to monitor the mud system.

5. PROPOSED DRILLING FLUID PROGRAM:

A. Surface hole: Drill this interval with clean fresh water. Lime & bentonite will be used as needed.

Should a water flow be encountered, it will be contained and drilling will resume.

B. Production interval: Start drilling this interval with fresh water. Use viscous sweeps to keep the wellbore clean and a flocculent to keep the water clean.

Should wellbore conditions dictate (tight hole, bridging & etc.) mud up will be with a polymer. Salt (NaCl) will be used for weight material.

Final fluid properties: 9.6# $\pm$ brine water.

6. WELLBORE EVALUATION:

A. CORING.....one possible.

B. DRILL STEM TESTING:.....one possible.

C. LOGGING: Surface Hole:.....None.

Productive interval:....DIL-GR
FDC-CNL
BHC-SONIC

D. COMPLETION: The objective formation is one of the gas zones in the upper Green River. Selected intervals will then be perforated and evaluated for stimulation work.

7. PRESSURES & TEMPERATURES:

A. PRESSURE:

At Total Depth the formation pressure will probably be 3800±Psi. The drilling fluid weight will be 8.9# to 9.6#±, depending on formation permeability.

B. TEMPERATURE:

Temperature is expected to be 140± degrees.

8. ANTICIPATED STARTING DATE:

Construction of road and location will probably start within three (3) to five (5) days of permit approval.

The well will probably be spudded with-in 15 days of wellsite completion.

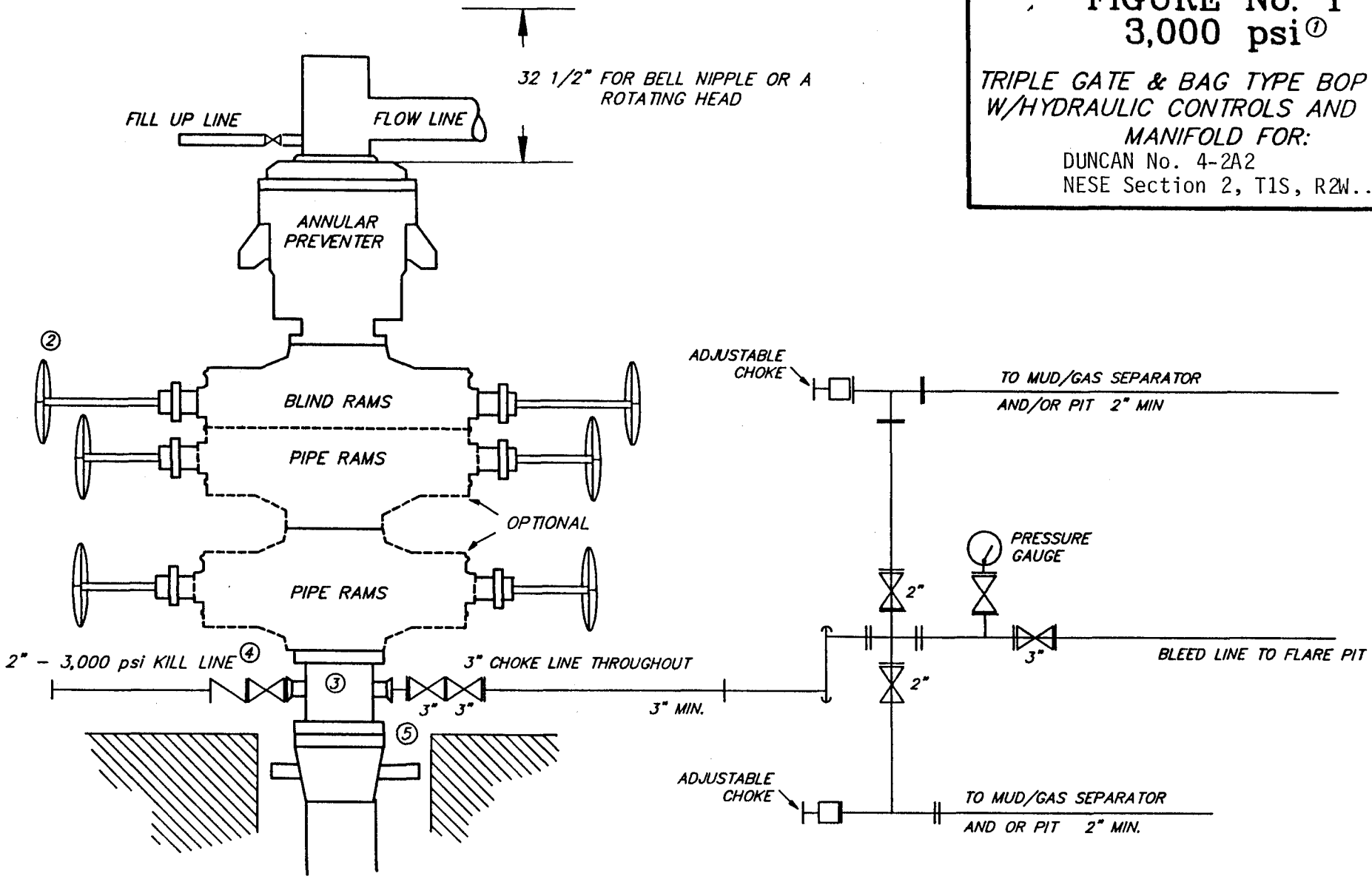
9. This well will be drilled per regulations as set forth by the:

State of Utah Natural Resource
Oil,Gas & Mining Division

FIGURE No. 1
3,000 psi①

TRIPLE GATE & BAG TYPE BOP STACK W/HYDRAULIC CONTROLS AND CHOKE MANIFOLD FOR:

DUNCAN No. 4-2A2
NESE Section 2, T1S, R2W..



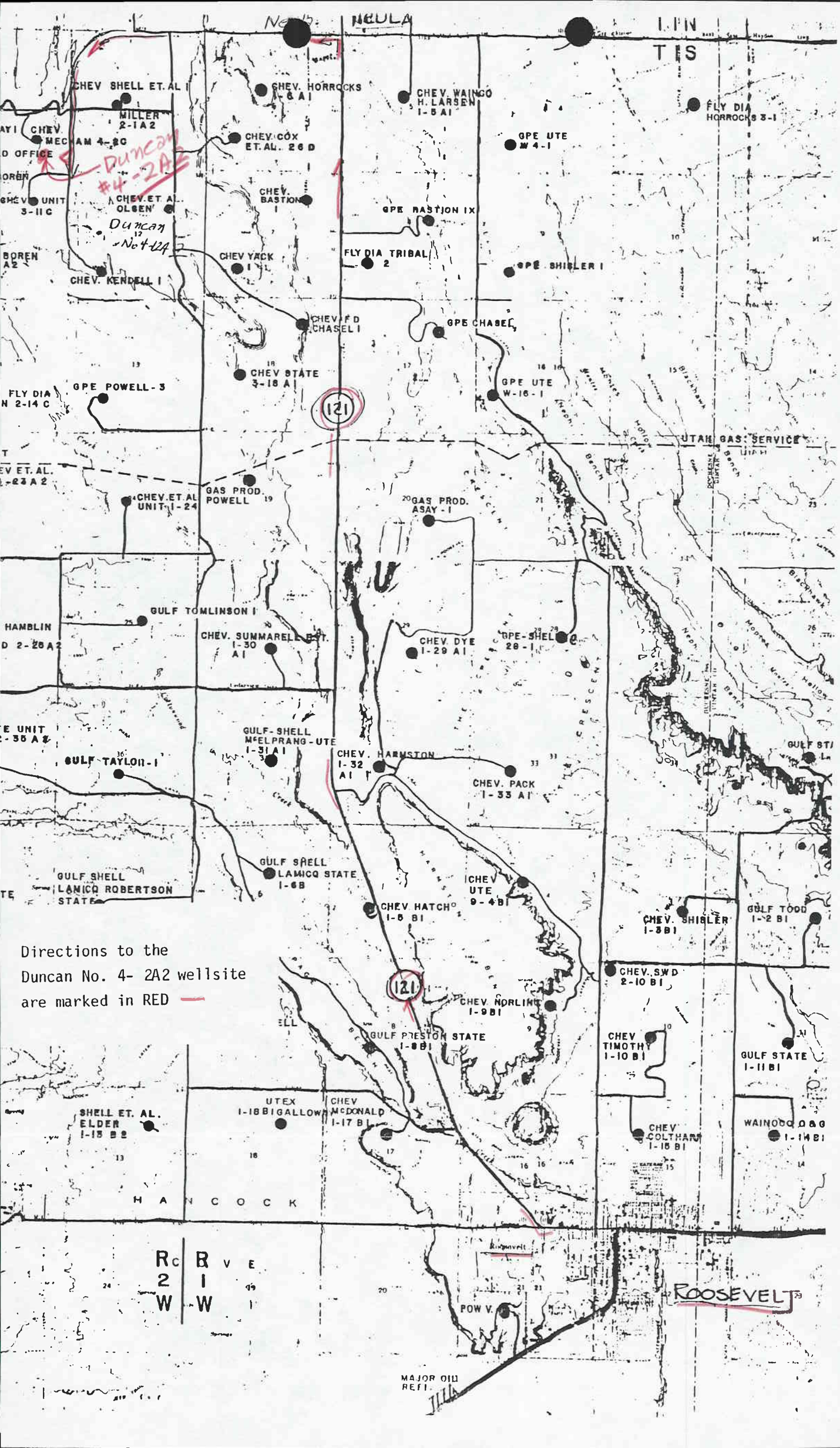
① = ALL BOP CONNECTIONS SUBJECTED TO WELL PRESSURE SHALL BE FLANGED, WELDED OR CLAMPED.

② = HAND WHEELS FOR EACH SET OF RAMS UNLESS EQUIPPED WITH AUTO LOCK.

③ = DRILLING SPOOL UNLESS BOTTOM BOP EQUIPPED WITH SIDE OUTLETS.

④ = KILL LINE W/1–2" VALVE & 1–2" CHECK VALVE WITH KILL LINE TO OUTER EDGE OF THE SUB STRUCTURE.

⑤ = TOP OF CASING HEAD FLANGE WILL BE AT GROUND LEVEL.



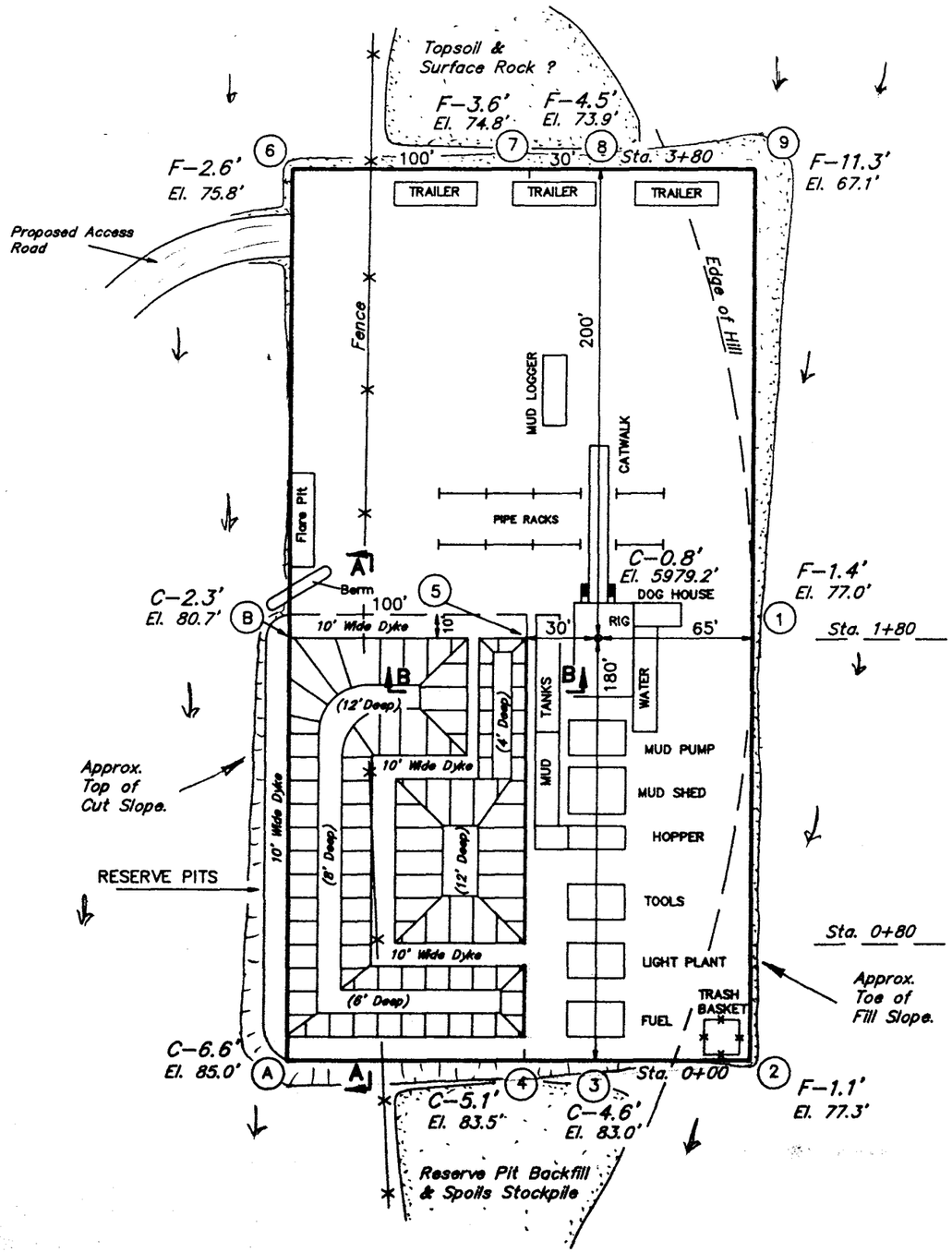
Directions to the Duncan No. 4- 2A2 wellsite are marked in RED

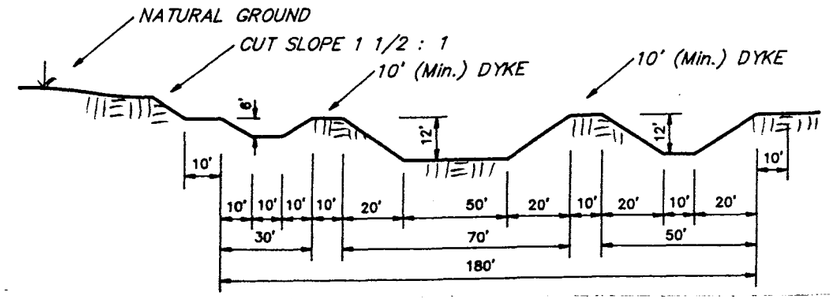
PENNZOIL EXPLR. & PROD. CO.

LOCATION LAYOUT FOR

DUNCAN #4-2A2

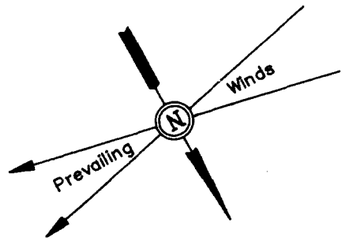
SECTION 2, T1S, R2W, U.S.B.&M.



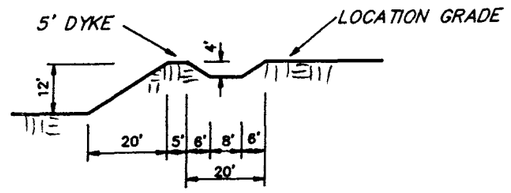


SECTION A-A

NO SCALE



SCALE: 1" = 60'
DATE: 5-16-90



SECTION B-B

NO SCALE

APPROXIMATE YARDAGES

CUT		
(6") Topsoil Stripping	=	1,380
Pit Volume (Below Grade)	=	2,630 Cu. Yds.
Remaining Location	=	3,789 Cu. Yds.
TOTAL CUT	=	7,799 CU.YDS.
FILL	=	4,845 CU.YDS.
EXCESS MATERIAL AFTER 5% COMPACTION	=	2,699 Cu. Yds.
Topsoil & Pit Backfill (1/2 Pit Vol.)	=	2,695 Cu. Yds.
EXCESS UNBALANCE (After Rehabilitation)	=	4 Cu. Yds.

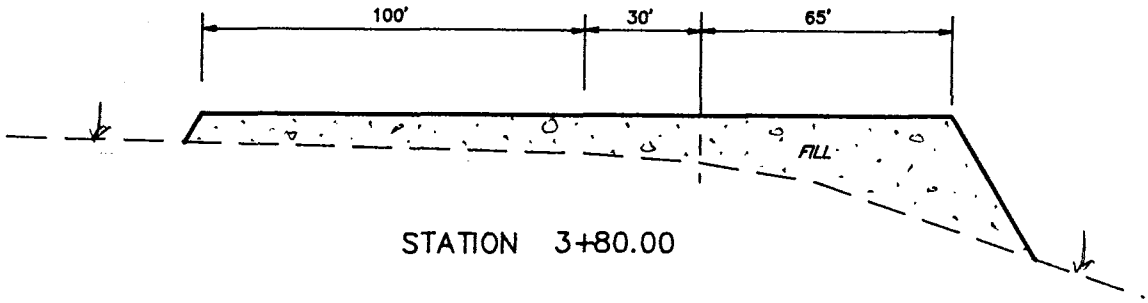
UINTAH ENGINEERING & LAND SURVEYING
P.O. Box 1758 Vernal, Utah

PENNZOIL EXPLR. & PROD. CO.

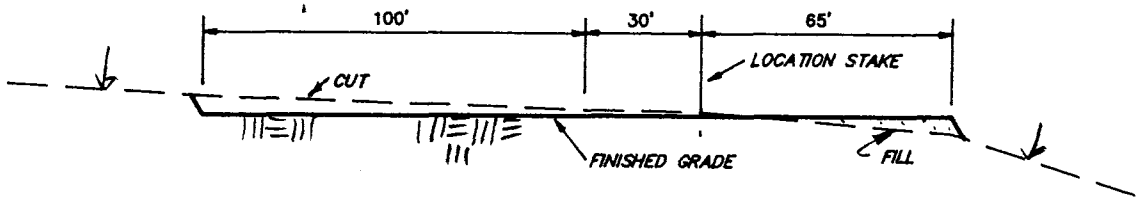
LOCATION LAYOUT FOR

DUNCAN #4-2A2

SECTION 2, T1S, R2W, U.S.B.&M.



STATION 3+80.00



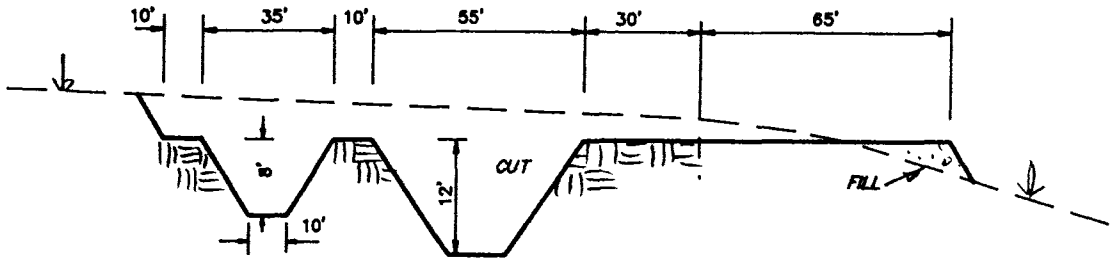
STATION 1+80.00

1" = 20'

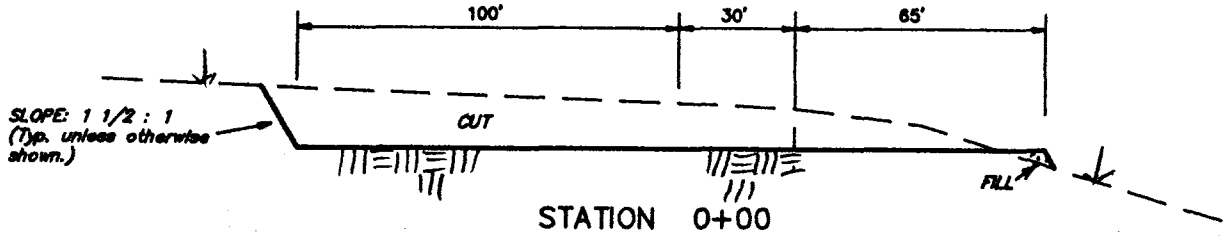
X-Section Scale

1" = 50'

DATE: 5-16-90



STATION 0+80.00



STATION 0+00

UINTAH ENGINEERING & LAND SURVEYING

P.O. Box 1758 Vernal, Utah

DRILLING LOCATION ASSESSMENT

State of Utah
Division of Oil, Gas and Mining

OPERATOR: PENNZOIL E & P CO. WELL NAME: DUNCAN 4-2A2
SECTION: 2 TWP: 1S RNG: 2W LOC: 1700 FNL 660 FWL
QTR/QTR SW/NW COUNTY: DUCHESNE FIELD: BLUEBELL/U.GR. RIVER
SURFACE OWNER: MC NEAL DUNCAN
SPACING: 660'F SECTION LINE 660'F QTR/QTR LINE 3960'F ANOTHER WELL
INSPECTOR: BRAD HILL DATE AND TIME: 5/17/90 14:30

PARTICIPANTS: Gil Hunt/DOGM, Wil Luna/Pennzoil, Tracy Monk/Monk Construction, Gil Mitchell/Ned Mitchell Construction

REGIONAL SETTING/TOPOGRAPHY: Central Uinta Basin, high flat area on glacial outwash terrace, abrupt dropoff on the west side of location

LAND USE:

CURRENT SURFACE USE: Domestic grazing

PROPOSED SURFACE DISTURBANCE: A rectangular pad will be constructed approximately 195'X 380' including the reserve pit. An access road about 200 yards long will be constructed from an existing road to the pad.

AFFECTED FLOODPLAINS AND/OR WETLANDS: None

FLORA/FAUNA: Sage, Juniper, Cottonwood, Squawbush, Willows, Rabbit Brush, grass, Prickly Pear, Barrel Cactus/Deer, Beavers, Birds

ENVIRONMENTAL PARAMETERS

SURFACE GEOLOGY

SOIL TYPE AND CHARACTERISTICS: Sandy silt with abundant cobbles.

SURFACE FORMATION & CHARACTERISTICS: Quaternary Alluvium overlying Duchesne River Formation

EROSION/SEDIMENTATION/STABILITY: No active erosion or sedimentation at present. Location should be stable.

PALEONTOLOGICAL POTENTIAL: None observed

SUBSURFACE GEOLOGY

OBJECTIVES/DEPTHS: Green River-6600', Mahogany Bench-8648'

ABNORMAL PRESSURES-HIGH AND LOW: Estimated Bottom Hole Pressure-3800 psi.

CULTURAL RESOURCES/ARCHAEOLOGY: NA

CONSTRUCTION MATERIALS: Onsite materials will be used for construction.

SITE RECLAMATION: As per landowner instructions.

RESERVE PIT

CHARACTERISTICS: An irregularly shaped reserve pit will be constructed. (see APD)

LINING: Pit is to be lined with a synthetic liner of at least 12 mil thickness.

MUD PROGRAM: Surface hole-fresh water, Production interval-fresh water with viscous sweeps and a flocculent to keep wellbore clean. Mud up with polymer and NaCl for weight as needed.

DRILLING WATER SUPPLY: Ron Duncan's farm pond located in Sec 12-1s-2w.

OTHER OBSERVATIONS
Vegetation in the pasture, which the access road crosses indicates the possibility of near surface water which may be encountered when the reserve pit is excavated.

STIPULATIONS FOR APD APPROVAL
Reserve pit is to be lined.
Berm west side of location to prevent runoff onto the hillside.

ATTACHMENTS
Photographs will be placed on file.

PENNZOIL EXPLORATION AND PRODUCTION COMPANY
P. O. BOX 290 • NEOLA, UTAH 84053 • (801) 353 - 4397

May 18, 1990

State of Utah, Dept of Natural Resources
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Re: Corrected Application for Permit to Drill
Duncan No. 4-2A2
1700' FSL & 660' FEL
NESE Section 2, T1S, R2W
Duchesne County, Utah

Gentlemen:

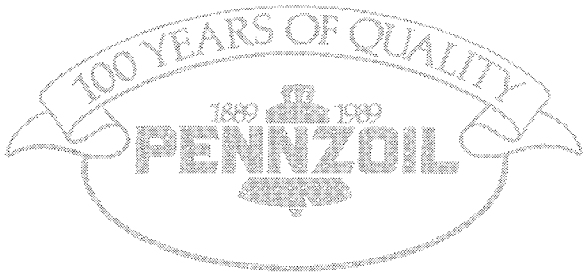
The original and two copies of captioned APD are enclosed for your review and I trust your approval. Pennzoil Exploration & Production Company requests that this APD and all related information submitted on this well be held confidential for that period of time as permitted by regulations and law.

Should there be any question, please contact the undersigned.

Sincerely,
Pennzoil Exploration & Production Company

Wilburn L. Luna
Drilling Superintendent

Enclosure



UT-9

DOGM Form 5
May 5, 1987

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

5. LEASE DESIGNATION AND SERIAL NO.: FEE LAND
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
7. UNIT AGREEMENT NAME:

1. OIL WELL ☐ GAS WELL ☐ OTHER: SHUT IN - TEMPORARY ABANDONED
2. NAME OF OPERATOR: PENNZOIL EXPLORATION & PRODUCTION CO.
8. FARM OR LEASE NAME: CLYDE MURRAY
3. ADDRESS OF OPERATOR: P. O. BOX 290 NEOLA, UTAH 84053
9. WELL NO.: 1-2A2
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 1185' FSL & 1322' FWL
10. FIELD AND POOL, OR WILDCAT: Lower Green River Bluebell-Wasatch
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SESW Sec. 2, T1S,R2W
12. COUNTY OR PARISH: Duchesne
13. STATE: Utah
14. API NUMBER: 43-013-30005
15. ELEVATIONS (Show whether DF, RT, GR, etc.): 5928' KB

MAY 21 1990
DIVISION OF OIL, GAS & MINING

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	XX	(Other)			
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

From data available this date:

1. Highest production perfs in this well were: 10,346 to 500' in 1968.
2. Lowest production perfs in this well: 13,425' - 923' in 1973.
3. There were no perfs in between the above.
4. Well is shut-in with Temporary Abandonment Status .
5. A recent SUNDRY NOTICES AND REPORTS ON WELLS was approved for plugback to the Upper Green River gas zone.
6. If required for approval of the APD for the Duncan No. 4-2A2, void the approval for Plugback in the Clyde Murray No. 1-2A2.
7. All known perfs in the Clyde Murray No. 1-2A2 are below the TGR3 geological marker. Therefore, the Temporary Abandonment status is either for Lower Green River or Wasatch perfs.

18. I hereby certify that the foregoing is true and correct
SIGNED Wilburn L. Luna (Office 801-353-4397) TITLE Drilling Superintendent (Home) 801-781-0620 DATE 5-18-90

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

CONFIDENTIAL

OPERATOR Pennzoil Explor. & Prod. Co. (N2885) DATE 5-18-90

WELL NAME Duncan 4-2A2

SEC NESE 2 T 1S R 2W COUNTY Duchesne

43-013-31276	Fee (4)
API NUMBER	TYPE OF LEASE

CHECK OFF: (80,000 # 81065280)

- [x] PLAT
- [x] BOND
- [x] NEAREST WELL
- [x] LEASE
- [x] FIELD (USM)
- [x] POTASH OR OIL SHALE

PROCESSING COMMENTS:
Nearest well ok under Cause No. 131-81 (see letter dated 5-30-90)
Water Permit 43-3037 / t90-43-03 (Dry Gulch)
Presite 5-21-90 / Geology Review 5-24-90

APPROVAL LETTER:

SPACING: [ ] R615-2-3 N/A UNIT [ ] R615-3-2

[x] 131-81 3-27-89 CAUSE NO. & DATE [ ] R615-3-3

STIPULATIONS:

CONFIDENTIAL PERIOD EXPIRED ON 3-8-93

1. Fee Land Stip.
2. The reserve pit shall be lined with a synthetic liner of at least 12 mil thickness.

0218T

Norman H. Bangerter
Governor
Dee C. Hansen
Executive Director
Dianne R. Nielson, Ph.D.
Division Director

State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

May 30, 1990

Pennzoil Exploration and Production Company
P.O. Box 290
Neola, Utah 84053

Gentlemen:

Re: Temporary Abandonment of Clyde Murray No. 1-2A2 Well, Section 2, Township 1 South Range 2 West, Duchesne County, Utah

In response to your sundry notice dated May 18, 1990, the Division of Oil, Gas and Mining hereby rescinds the approval to recomplete the referenced well to the Upper Green River formation. The well will remain as one of the two approved wells for the Lower Green River/Wasatch formation drilling unit comprising Section 2, Township 1 South, Range 2 West.

Because your application to drill the Duncan No 4-2A2 well requests approval to complete the well for production within the Upper Green River formation of Section 2, Township 1 South, Range 2 West, the Division must either rescind approval for the Clyde Murray well recompletion or disallow the drilling of the Duncan well. Based on your stated desires, the Division is rescinding approval for the Clyde Murray well recompletion.

I hope this action meets your needs. If you have any questions regarding this matter, please contact me.

Sincerely,

John R. Baza
Petroleum Engineer

cc: R. J. Firth
Well file
OI2/294

Norman H. Bangerter
Governor
Dee C. Hansen
Executive Director
Dianne R. Nielson, Ph.D.
Division Director

State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

May 30, 1990

Pennzoil Exploration & Prod. Co.
P. O. Box 290
Neola, Utah 84053

Gentlemen:

Re: Duncan 4-2A2 - NE SE Sec. 2, T. 1S, R. 2W - Duchesne County, Utah
1700' FSL, 660' FEL

Approval to drill the referenced well is hereby granted in accordance with the Order of Cause No. 131-81 dated March 27, 1989, subject to the following stipulations:

1. Pennzoil Exploration, as designated operator, is the bonded principal in reference to this Application for Permit to Drill. Should this designation change or a transfer of ownership occur, liability will remain with the designated operator until the Division is notified by letter of a new bonded principal.

2. The reserve pit shall be lined with a synthetic liner of at least 12 mil thickness.

In addition, the following actions are necessary to fully comply with this approval:

1. Spudding notification within 24 hours after drilling operations commence.

2. Submittal of an Entity Action Form within five working days following spudding and whenever a change in operations or interests necessitates an entity status change.

3. Submittal of the Report of Water Encountered During Drilling, Form 7.

4. Prompt notification if it is necessary to plug and abandon the well. Notify John R. Baza, Petroleum Engineer, (Office) (801) 538-5340, (Home) 298-7695, or Jim Thompson, Lead Inspector, (Home) 298-9318.

5. Compliance with the requirements of Rule R6l5-3-20, Gas Flaring or Venting, Oil and Gas Conservation General Rules.

6. Prior to commencement of the proposed drilling operations, plans for facilities for disposal of sanitary wastes at the drill site shall be submitted to the local health department. These drilling operations and any subsequent well operations must be conducted in accordance with applicable state and local health department regulations. A list of local health departments and copies of applicable regulations are available from the Division of Environmental Health, Bureau of General Sanitation, telephone (80l) 538-6121.

7. This approval shall expire one (1) year after date of issuance unless substantial and continuous operation is underway or an application for an extension is made prior to the approval expiration date.

The API number assigned to this well is 43-013-31276.

Sincerely,

R. J. Firth
Associate Director, Oil & Gas

tas
Enclosures
cc: Bureau of Land Management
J. L. Thompson
WE14/11-12

PENNZOIL EXPLORATION AND PRODUCTION COMPANY
P. O. BOX 290 • NEOLA, UTAH 84053 • (801) 353 - 4397

April 1, 1991

State of Utah, Dept. of Natural Resources
Division of Oil, Gas, and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
ATTN: Frank Matthews

RE: Extension on APD for the following wells:

Duncan 4-2A2
1700' FSL & 660' FEL
Sec. 2 T1S R2W
Duchesne County, Utah
API No: 43-013-31276

Duncan 3-7A1
1113' FNL & 660' FWL
Sec. 7 T1S R1W
Duchesne County, Utah
API no. 43-013-31285

Gentlemen:

Pennzoil Exploration and Production Company requests an extension on the APD for the caption wells. Please find the original and two copies of your Form 5 "Sundry Notices & Report On Wells" for the extension request of the respective wells.

Please contact the undersigned if there should be any question. (801) 353-4397

Sincerely
PENNZOIL EXPLORATION AND PRODUCTION COMPANY

Danny L. Laman

Enclosure

Form OGC-1b

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

5. LEASE DESIGNATION AND SERIAL NO.: Fee Land

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

1. OIL WELL ☐ GAS WELL ☒ OTHER

7. UNIT AGREEMENT NAME:

2. NAME OF OPERATOR: Pennzoil Exploration and Production Company

8. FARM OR LEASE NAME: Duncan

3. ADDRESS OF OPERATOR: P.O. Box 290 Neola, Utah 84053

9. WELL NO.: 4-2A2

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 1700' FSL and 660' FEL

10. FIELD AND POOL, OR WILDCAT: Upper GR / Gas

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 2 T1S R2W

14. PERMIT NO.: 43-013-31276 dd

15. ELEVATIONS (Show whether DF, RT, GR, etc.): GL Ungraed 5979'

12. COUNTY OR PARISH: Duchesne

13. STATE: Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Request for extension			Xx ✓
(Other)	☐			(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

1. Pennzoil is requesting an extension on the APD for the Duncan 4-2A2 for another year.

CONFIDENTIAL

RECEIVED
APR 0 2 1991
DIVISION OF
OIL GAS & MINING

Office (801) 353-4397 Home (801) 789-7033

18. I hereby certify that the foregoing is true and correct

SIGNED Gary Lamm TITLE Drilling Foreman DATE 4-1-91

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 4/9/91
BY:

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

Form OGC-1b

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

5. LEASE DESIGNATION AND SERIAL NO.: Fee Land

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Duncan

9. WELL NO.: 4-2A2

10. FIELD AND POOL, OR WILDCAT: Bluebell-Green River

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 2, T1S, R2W

1. OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR: Pennzoil Exploration and Production Company

3. ADDRESS OF OPERATOR: P. O. Box 290; Neola, Utah 84053

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 1700' FNL & 660' FEL (NE SE)

CONFIDENTIAL

14. PERMIT NO.: 43-013-31276

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 5979' (GR)

12. COUNTY OR PARISH: Duchesne

13. STATE: Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☒	(Other)			☐
(Other)			☐	(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Plan to change plans from APD dated 5-18-90 as follows:

1. Drill 11" surface hole instead of 12 1/4" surface hole.
2. Drill to TD of 8700' instead of 9300'.

RECEIVED
JUN 14 1991
DIVISION OF OIL GAS & MINING

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 6-24-91
BY: [signature]

18. I hereby certify that the foregoing is true and correct

SIGNED [signature] TITLE Petroleum Engineer DATE 6/13/91

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

PENNZOIL EXPLORATION AND PRODUCTION COMPANY
P. O. BOX 290 • NEOLA, UTAH 84053 • (801) 353 - 4397

June 13, 1991

State of Utah, Dept. of Natural Resources
Division of Oil, Gas, and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Re: Sundry Notice; Change Plans
Duncan 4-2A2
NESE Sec. 2, TAS R2W
Duchesne County, Utah

Gentlemen:

Enclosed, please find the original and two copies of your Form 5 "Sundry Notices & Reports On Wells" for the captioned well. Pennzoil Exploration and Production Company requests these Form 5 and all related information submitted on this well be held CONFIDENTIAL for that period of time permitted by regulations and law.

Please contact the undersigned if there should be any question. (801) 353-4397

Sincerely
Pennzoil Exploration and Production Company

DR Lankford

D.R. Lankford

Enclosure

DIVISION OF OIL, GAS AND MINING

WATER PERMIT OK

API NO. 43-013-31276

SPUDDING INFORMATION

NAME OF COMPANY: PENNZOIL EXPLORATION & PRODUCTION COMPANY

WELL NAME: DUNCAN 4-2A2

SECTION NESE 2 TOWNSHIP 1S RANGE 2W COUNTY DUCHESNE

DRILLING CONTRACTOR BILLS RAT HOLE

RIG #

SPUDDED: DATE 7-9-91

TIME 1:00 p.m.

HOW DRY HOLE

CONFIDENTIAL

DRILLING WILL COMMENCE UNSURE

REPORTED BY DANNY LAMAN

TELEPHONE # 353-4397

DATE 7-9-91 SIGNED TAS/JB

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

ENTITY ACTION FORM - FORM 6

OPERATOR Pennzoil Exploration & Production

ADDRESS P.O. Box 2967
Houston, Tx 77252-2967

OPERATOR ACCT. NO. N2885

ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION QQ	SC	TP	RG	COUNTY	SPUD DATE	EFFECTIVE DATE
A	99999	11258	4301331276	Duncan 4-2A2	NESE	2	1S	2W	Duchesne	7/31/91	7/31/91

WELL 1 COMMENTS: Fee-Lease
Field-Bluebell
Unit-N/A
Prop. Zone-GRRV
(Entity added 8-8-91) jr

WELL 2 COMMENTS:

WELL 3 COMMENTS:

WELL 4 COMMENTS:

WELL 5 COMMENTS:

ACTION CODES (See instructions on back of form)
- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (explain in comments section)

NOTE: Use COMMENT section to explain why each Action Code was selected.

(3/89)

RECEIVED
AUG 0 6 1991
DIVISION OF
OIL GAS & MINING

Elizabeth O. Traylor
Signature
Staff Acct. III 8/5/91
Title Date
Phone No. (713) 546-6969

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING
DRILLING INSPECTION FORM

COMPANY: PENNZOIL EXPL. & PROD. CO. COMPANY REP: ROBERT GRIFFEE

WELL NAME: DUNCAN 4-2A2 API NO: 43-013-31276

QTR/QTR: NE SE SECTION: 4 TWP: 1 S RANGE: 2 W

CONTRACTOR: GRACE DRILLING RIG NUMBER: 181

INSPECTOR: HEBERTSON TIME: 12:30 AM DATE: 8/6/91

OPERATIONS: CEMENTING SURFACE PIPE & TEST BOPE DEPTH: 3,501

SPUD DATE: DRY: 7/23/91 ROTARY: _____ T.D.: _____ DEPTH: 3,501

==========

WELL SIGN: Y SANITATION: Y BOPE: NA BLOOIE LINE: NA

H2S POTENTIAL: _____ ENVIRONMENTAL: Y FLARE PIT: Y

RESERVE PIT: Y FENCED: Y LINED: Y PLASTIC: Y

RUBBER: _____ BENTONITE: _____ OTHER: _____

BOPE TEST RECORDED IN THE RIG DAILY TOUR BOOK: NA

BOPE TRAINING RECORDED IN THE RIG DAILY TOUR BOOK: NA

==========

LEGEND: (Y)=YES (U)=UNKNOWN (NA)=NOT APPLICABLE

==========

REMARKS:

FOR MORE DETAIL OF THE CEMENTING RECORD AND THE BOPE TEST SEE THE CEMENTING OPERATIONS AND THE BOPE TEST RECORD SUBMITTED WITH THIS REPORT

STATE OF UTAH
DIVISION OF OIL GAS AND MINING
BOPE TEST INSPECTION FORM

COMPANY: PENNZOIL EXPL. & PROD. REPRESENTATIVE: BOB GRIFFEE

WELL NAME: DUNCAN 4-2A2 API NO: 43-013-31276

WELL SIGN: Y QTR/QTR NE SE SEC: 4 TWP: 1S RANGE: 2W

INSPECTOR: HEBERTSON TIME: 3:30 AM DATE: 8/7/91

DRILLING CONTRACTOR: GRACE DRILLING RIG: 181

DEPTH: 3,501 LAST CASING: CONDUCTOR SET @: 92 FEET

TESTED BY: DOUBLE JACK WATER: Y MUD:

TEST PRESSURES: 3000/1500 KELLYCOCK: UPPER 3,000 LOWER 3,000

INSIDE BOP 3,000 FULL OPENING VALVE ON FLOOR Y

WRENCH FOR FULL OPENING VALVE/KELLYCOCK ON FLOOR Y

STACK LISTED AS ARRANGED (FROM TOP TO BOTTOM): PRESSURE

1. DRILLING HEAD
2. ANNULAR HYDRIL 1,500
3. RAMS 3,000
4. RAMS 3,000
5. RAMS NONE
6. MUD CROSS FILL AND KILL LINES 3,000
7. CROSS OVER FLANGE 3,000
8. BRADEN HEAD AND CASING 1,500

CHOKE MANIFOLD AND VALVES:

DART VALVE: 3,000 FLOOR VALVE: 3,000 HCR VALVE:

INSIDE VALVES 3,000 OUTSIDE VALVES 3,000

ADDITIONAL COMMENTS: ONE SIDE OF PIPE RAMS WAS INSTALLED UPSIDE DOWN. ACCUMULATOR LOW ON OIL. CHANGED OUT AND RETESTED

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING
CEMENTING OPERATIONS

COMPANY NAME: PENNZOIL EXPLORATION AND PRODUCTION COMPANY

WELL NAME: DUNCAN 4-2A2

QTR/QTR NE SW SECTION 4 TOWNSHIP 1S RANGE 2W

CEMENTING COMPANY: DOWELL SCHLUMBERGER WELL SIGN: Y

INSPECTOR: HEBERTSON DATE: AUG. 8 1991

CEMENTING OPERATIONS: PLUGBACK:_____ SQUEEZE:_____ P&A ZONE:_____

SURFACE CASING: Y INTERMEDIATE:_____ PROD CASING:_____

PERFORATIONS:_____ SQUEEZE PRESSURE:_____

CASING INFORMATION:

SIZE: 8 5/8 GRADE: K-55 HOLE SIZE: 11 DEPTH: 3,501

SLURRY INFORMATION:

1. CLASS: G, DS HI LIFT 3%CACL G 2% CACL 1/4#/SX
   LEAD: 1/4#/SX 29 2#/SX RUBBER TAIL: D 29

2. SLURRY WEIGHT:
   LEAD: 430 SX 11 LB/GAL TAIL: 200 SX 15.8 LB/GAL

3. WATER (GAL/SX)
   LEAD: 23.8 GAL/SX TAIL: 4.9 GAL/SX

4. COMPRESSIVE STRENGTH:
   PSI @ 1,500 HRS. 2,500 HRS

PIPE CENTRALIZED: Y CEMENTING STAGES: 1

LOST RETURNS: N REGAIN RETURNS:_____ BARRELS LOST:_____

TOP OF CEMENT: SURFACE PERFORATED INTERVAL:_____

CEMENT TO SURFACE: N

1 INCH INFORMATION: WEIGHT: 15.8 CEMENT TO SURFACE: Y

FEET: 120 SX: 300 CLASS: G %SALTS: 3 RETURNS: Y

ADDITIONAL COMMENTS: NO CEMENT TO SURFACE BEFORE PLUG WAS BUMPED PLUG DOWN AT 7:00 AM. CEMENT TO SURFACE IN THREE ATTEMPTS WITH 100 SX EACH ATTEMPT. CEMENT TO SURFACE ON LAST ATTEMPT.

State

DOUBLE JACK TESTING & SERVICES, INC.

PHONE (801) 781-0448

RECEIVED
AUG 27 1991
DIVISION OF
OIL GAS & MINING

B.O.P. TEST REPORT

B.O.P. TEST PERFORMED ON (DATE) 8-7-91

OIL COMPANY Penzoil

WELL NAME & NUMBER Duncan 4-2A2 43-013-31276

SECTION 2

TOWNSHIP 1S

RANGE 2W

COUNTY & STATE Duchesne

DRILLING CONTRACTOR Grace #

OIL COMPANY SITE REPRESENTATIVE Bobby

RIG TOOL PUSHER Gene

TESTED OUT OF Vernal Ut

NOTIFIED PRIOR TO TEST State

COPIES OF THIS TEST REPORT SENT TO: Penzoil
Grace
State

ORIGINAL CHART & TEST REPORT ON FILE AT: Vernal Office

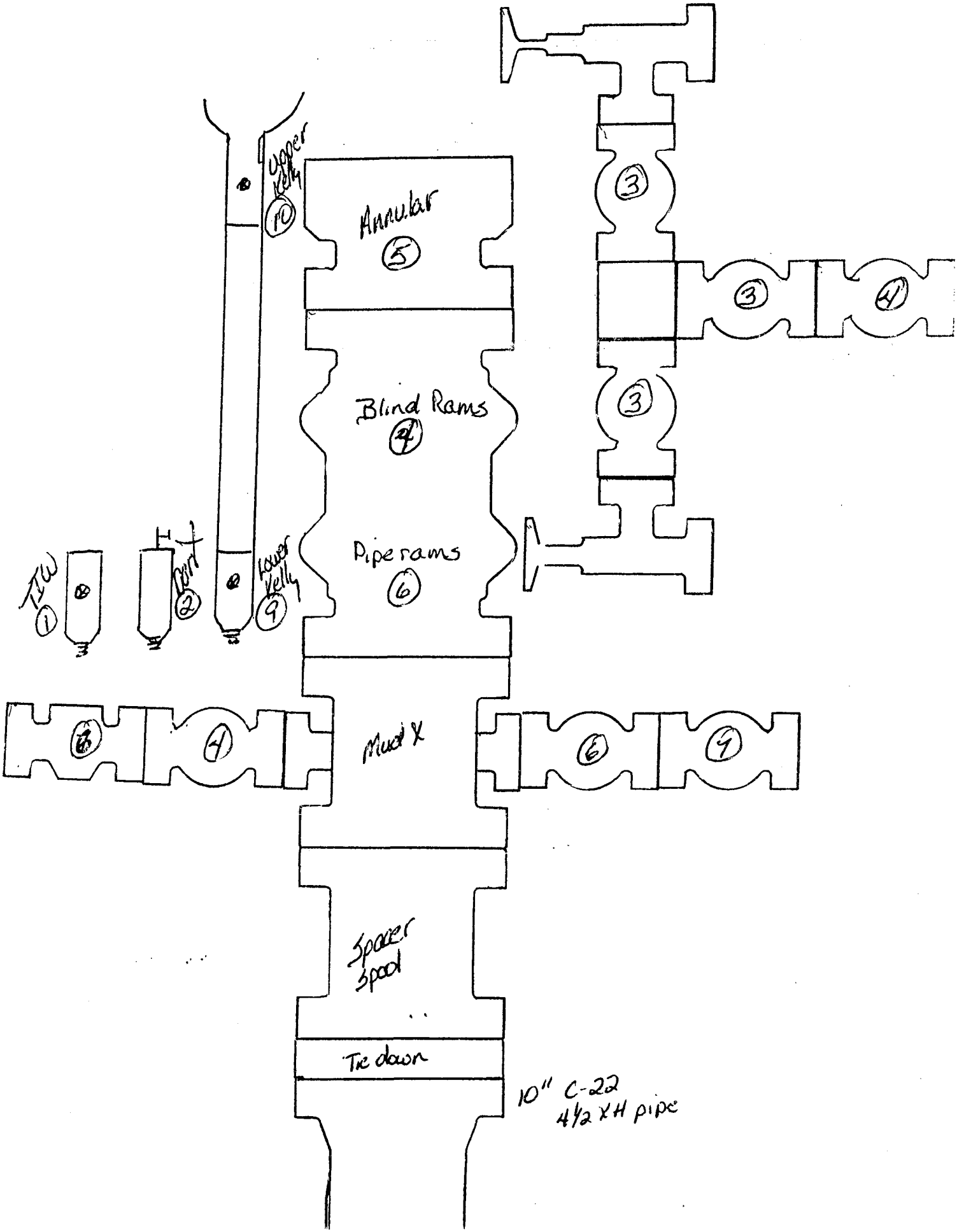
TESTED BY: Mark Abbott

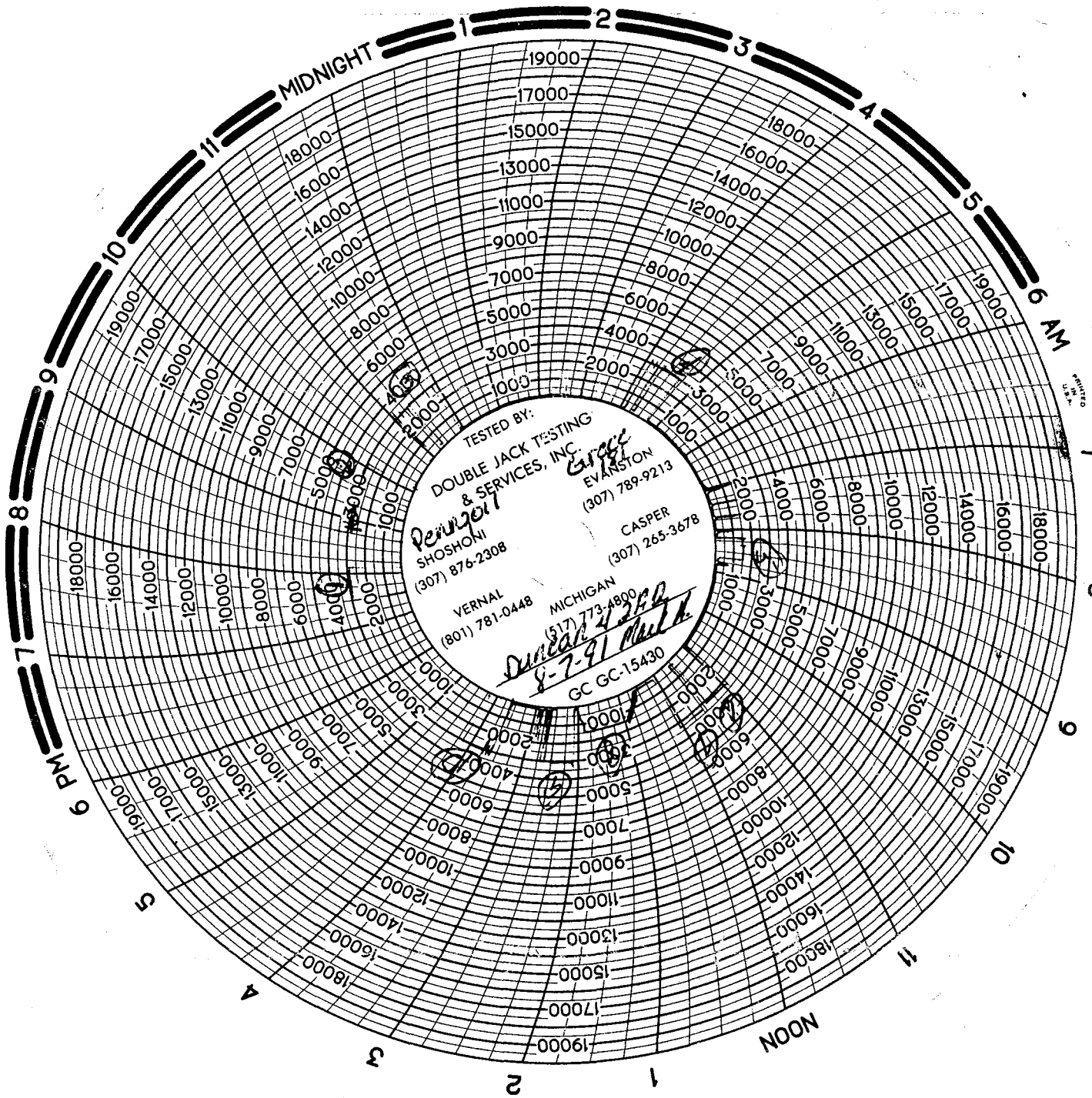
DOUBLE JACK TESTING & SERVICES, INC.
P O BOX 828
VERNAL, UT 84078-0828

COMPANY	LEASE AND WELL NAME #	DATE OF TEST	RIG # AND N
Penn Yorks	Duncan 4-2R2	8-7-91	Grace #181

TEST#	TIME	
1	3:18 - 3:28	Dart Valve 3,000 psi
2	3:40 - 3:50	TIW
3	4:26 - 4:36	Inside Choke Manifold
4	4:50 - 7:00	Blinds & second panic line valve, manual kill line valve
5	8:43 - 8:53	Hydril
6	10:04 - 10:14	Pipe rams, 1st choke line vlv, & check vlv
7	10:20 - 10:30	Pipe rams, 2nd choke line valve
8	10:53 - 11:23	Casing 30 min 1500 no loss
9	11:28 - 11:38	Lower Kelly
10	12:14 - 12:24	Upper Kelly

Grace 181


Upper Kelly
10
Annular
5
3
3
4
Blind Rams
7
3
IW
1
Dart
2
Lower Kelly
9
Pipe rams
6
6
4
Mud X
6
9
Spacer Spool
Tie down
10" C-22
4½ XH pipe


MIDNIGHT
1
2
3
4
5
6 AM
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9
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NOON
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6 PM
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11
TESTED BY:
DOUBLE JACK TESTING
& SERVICES, INC.
SHOSHONI
(307) 876-2308
EVANSTON
(307) 789-9213
CASPER
(307) 265-3678
VERNAL
(801) 781-0448
MICHIGAN
(517) 773-4800
GC GC-15430

Form OGC-1b

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUBMIT IN TRIPLICATE* (other instructions on reverse side)

5. LEASE DESIGNATION AND SERIAL NO.: Fee Land

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

RECEIVED
SEP 0 9 1991
DIVISION OF OIL GAS & MINING

1. OIL WELL ☐ GAS WELL ☒ OTHER

7. UNIT AGREEMENT NAME:

2. NAME OF OPERATOR: Pennzoil Exploration and Production Company

8. FARM OR LEASE NAME: Duncan

3. ADDRESS OF OPERATOR: P.O. Box 290; Neola, Utah 84053

9. WELL NO.: 4-2A2

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 1700' FSL and 660' FEL

10. FIELD AND POOL, OR WILDCAT: Bluebell- Up. Green Riv.

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 2, T1S, R2W

TIGHT HOLE

14. PERMIT NO.: API 43-013-31276

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 5979' (GL)

12. COUNTY OR PARISH: Duchesne

13. STATE: Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Monthly Drilling Oper.			☒
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

MONTHLY DRILLING OPERATIONS; COMPLETE

- Set 14" conductor pipe at 80'. Cemented with 328 sx. class "G" cement. Circ. cement to surface.
- Spudded 12 1/4" hole with Grace Rig#181 8:00 AM 7/31/91.
- Drilled 12 1/4" hole to 3500' with fresh water. Lost approx. 200 bbl. water 410'-1504' due to seepage.
- Set 8 5/8" 24#/28# S-80 casing at 3500'. Cemented with 415 sx. HiLift followed by 200 sx. class"G" cement. Did not circ. to surface. Conducted 1" top job from 160'. Circ. 4 bbl. cement to surface.
- Pressure test 8 5/8" casing to 1500 psi. Drilled 10 ft. new formation to 3510'. Perform leak-off test to 12.5 ppg EMW. No leak-off.
- Drilled 7 7/8" hole to 8720'. Final mud wt. 9.1 ppg. Took Core Sample # 1 7028'-7085'. Took Core # 2 7085'-7144'. DST interval 7015'-7144' as follows: Opened tool with 6" blow; to bottom of bucket in 30 sec. 5 min.SIP 60 psi. 10' flare in 19 min. Flare died in 40 min. Opened tool after 60 min. On 1/4" choke: 230 MCF @ 140 psi. after 5 min., 430 MCF @ 300 psi. after 10 min., 600 MCF @ 400 psi. after 15 min., GO TO 1/2" choke: 2400 MCF @ 340 psi. after 20 min., 2000 MCF @ 300 psi. after 30 min., 2000 MCF @ 300 psi. after 45 min.
- Ran Logs: High Resolution Induction, Bore Hole Profile from 4-Arm Caliper, Spectral Density Dual Spaced Neutron, Full Wave Acoustic, Long Spaced Sonic.
- Set 5 1/2" 17# WC-70 LTC casing at 8720'. Cemented with 995 sx. 11.0 ppg. HiLift cement followed by 810 sx. 14.1 ppg.Class"G' cem.
- Released drilling rig 8: AM 8/31/91.

18. I hereby certify that the foregoing is true and correct

SIGNED DR Cauthorn TITLE Petroleum Engineer DATE 9/6/91

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Vernal District Office
170 South 500 East
Vernal, Utah 84078
Phone (801) 789-1362 FAX (801) 789-3634

MAY 18 1992

IN REPLY REFER TO:
3162.7-2
UT08438

Pennzoil Exploration & Production Company
Attn: H. H. Stromgren
P.O. Box 290
Neola, Utah 84053

Re: Variance Request

Dear Mr. Stromgren:

This correspondence is in regard to your request for a variance to the method measurement and treatment of asphaltic crude produced at the following wells:

Duncan 4-12A2	Duncan 4-2A2
Cornaby 2-14A2	Hamblin 3-9A2

After a review by this office, your request is approved as long as the volume of crude oil is estimated by tank gauge prior to hauling it the common location for treatment. This will make it easier to pro-rate it back to the individual wells at the time of sales.

If you have any other questions concerning this matter, please contact Ed Forsman of this office at (801) 789-1362.

Sincerely,

for Jerry Kenczka
Howard B. Cleavinger II
Assistant District Manager for Minerals

PENNZOIL EXPLORATION AND PRODUCTION COMPANY
P. O. BOX 290 • NEOLA, UTAH 84053 • (801) 353-4397

March 31, 1992

Bureau of Land Management
Vernal, Utah

Attn: Jerry Kenczka

Re: Request for Variance

Dear Sir:

After extensive testing, we have found a market for our asphalt based oil from the following wells:

Duncan 4-12A2
Duncan 4-2A2
Cornaby 2-14A2
Hamblin 3-9A2

The oil is acceptable in a merchantable condition at a refinery in Salt Lake City. At present, the field price would be about twelve dollars a barrel.

The above wells have some federal mineral acres, and some have none. To make this oil economical we would have to do treating at one location.

We propose to split the production at time of sale, and that way pay royalties, on a pro-rated basis, on percent cuts and overall production, of the oil and water emulsion.

We would like your opinion on this matter and see if there are any unforseen problems or conditions for this type of arrangement.

The economics of this plan seem feasible if we can keep this treatment simple and do it all at one point.

H. H. STROMGREN
Production Superintendent
Neola, Utah

RECEIVED
MAY 20 1992
DIV. OIL, GAS, MINING

Form OGC-1b

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

IT IN TRIPLICATE*
ther instructions on
reverse side)

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR
PENNZOIL EXPLORATION & PRODUCTION

3. ADDRESS OF OPERATOR
P. O. BOX 290 NEOLA, UTAH 84053

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
SEE BELOW
Sec 2 1S 2W

5. LEASE DESIGNATION AND SERIAL NO.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

9. WELL NO.
DUNCAN 4-2A2

10. FIELD AND POOL, OR WILDCAT
Altamont-Green River

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

14. PERMIT NO.
43-013-31276

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

12. COUNTY OR PARISH
Duchesne

13. STATE
Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐				
(Other) REQUEST FOR VARIANCE			☐	(Other)			☐

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Cornaby	2-14A2	NW 498
Duncan	4-12A2	CA #UTU67304
[redacted]		FEE
Hamblin	3-9A2	FEE

SEE ATTACHMENTS

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS AND MINING
DATE: 5-21-92
BY: [signature]

RECEIVED
MAY 20 1992
DIV. OIL, GAS, MINING

18. I hereby certify that the foregoing is true and correct

SIGNED [signature] TITLE Production Superintendent DATE May 18, 1992

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Form OGC-3

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUBMIT IN DUPLICATE*
(See other instructions on reverse side)

56 64 01

CONFIDENTIAL

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

RECEIVED
OCT 07 1992
DIVISION OF OIL, GAS & MINING

5. LEASE DESIGNATION AND SERIAL NO.: FEE LAND
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
7. UNIT AGREEMENT NAME:
8. FARM OR LEASE NAME: Duncan
9. WELL NO.: 4-2A2
10. FIELD AND POOL, OR WILDCAT: Bluebell
11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Sec. 2, T1S, R2W

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ Other

b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other

2. NAME OF OPERATOR: PENNZOIL EXPLORATION AND PRODUCTION COMPANY

3. ADDRESS OF OPERATOR: P. O. Box 2967, Houston, Texas 77252-2967

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*
At surface: 1700' FSL and 660' FEL
At top prod. interval reported below
At total depth

14. PERMIT NO.	DATE ISSUED	12. COUNTY OR PARISH	13. STATE
43-013-31276	5-30-90	Duchesne	Utah

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (Ready to prod.)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
7-31-91	8-28-91	2-8-92	KB 5994 DF 5993 GL 5979	5979

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
8720			→	XX	

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*: 7024-7068 Upper Green River

25. WAS DIRECTIONAL SURVEY MADE: No

26. TYPE ELECTRIC AND OTHER LOGS RUN: MUD LOG, HIGH RESOLUTION INDUCTION LOG, SPECTRAL DENSITY DUAL SPACED NEUTRON, FULL WAVE ACOUSTIC, LONG SPACED SONIC, BOREHOLE PROFILE FROM 4-ARM CALIPER 9-25-91

27. WAS WELL CORED: Yes

CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8.625"	24/28#	3500'	11.0"	615 SXS	
5.5"	17#	8720'	7.875"	1,805 SXS	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)

31. PERFORATION RECORD (Interval, size and number)
SEE ATTACHED

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
SEE ATTACHED.	

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)
2-7-92	Flowing	Producing

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
2-8-92	24	21/64"		0	1354	12	

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
2000			0	1354	12	

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.): SOLD
TEST WITNESSED BY: Jess Dullnig

35. LIST OF ATTACHMENTS: Completion Reports, Logs

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED Ralph Williams TITLE Supervising Engineer DATE 2/12/92

*(See Instructions and Spaces for Additional Data on Reverse Side)

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "*Sacks Cement*". Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES: SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES				38. GEOLOGIC MARKERS		
FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	TOP MEAS. DEPTH	TOP TRUE VERT. DEPTH
GREEN RIVER			DST - TIGHT HOLE			
GREEN RIVER			CORE - TIGHT HOLE			
				TGR	6700	
				TG2	6900	
				Mb	8604	

DUNCAN 4-2A2 COMPLETION SUMMARY

09/18/91: Perforated 8014-8028 (14', 42 holes, 1 interval).

09/19/91: 14 hr SITP-vacuum. Swabbed 8014-8028 for 9 hrs, recovered 122 BW with a trace of oil & gas. IFL-700'. FFL-7400'. Entry last hour-2 BW.

09/20/91: Acidized 8014-8028 with 3000 gals 15% HCL with CO2 & balls. Had complete ball-out.

09/21/91: 13 hr SITP-160 psi. Swabbed 8014-8028 for 10 hrs, recovered 220 BW with a trace of oil & gas. IFL-500'. FFL-5750'. Entry last hour-10 BW.

09/23/91: Set 5-1/2" CIBP at 7960' with 15' of cmt on top.

09/24/91: Perforated 7218-22, 7260-63, 7286-90, 7318-48 (41', 41 holes).

09/25/91: 13 hr SITP-1550 psi. Flowed 7218-7348 for 5 hrs, recovered 30 BO with a trace of water & gas. Could not swab due to heavy oil.

09/26/91: Acidized 7218-7348 with 5000 gals 15% HCL with CO2 & balls. Had complete ball-out.

09/27/91: 14 hr SITP-1600 psi. Flowed 7218-7348 for 3 hrs, recovered 25 BO with a trace of gas & water. Could not swab due to heavy oil.

09/27/91: Set 5-1/2" CIBP at 7274'. Set another 5-1/2" CIBP at 7200'. Dumped 15' of cmt on top of CIBP at 7200'.

09/28/91: Perforated 7043-58, 7061-68, 7081-90, 7102-07, 7119-24 (41', 41 holes).

09/29/91: 13 hr SITP-1650 psi. Flowed 7043-7124 for 8 hrs, recovered 25 BO with a trace of gas & no water. Could not swab due to heavy oil.

10/01/91: Set 5-1/2" retainer at 7096'. Squeezed 7102-7124 w/ 45 sxs.

10/03/91: 19 hr SITP-0. Swabbed 7043-7090 for 7 hrs, recovered 59 BW with a trace of oil & gas. IFL-200'. FFL-6100'. Entry last hour-2 BW.

10/04/91: Acidized 7043-7090 with 5000 gals 15% HCL with no CO2 or diverter.

10/05/91: 17 hr SITP-1100 psi. Could not flow or swab 7043-7090 due to heavy oil

10/07/91: Set 5-1/2" retainer at 7075'.

10/08/91: Squeezed 7081-7090 with 50 sxs.

10/10/91: Reperforated 7043-58, 7061-68 (22', 22 holes).

10/14/91: 88 hr SITP-0. Swabbed 7043-7068 for 9 hrs, recovered 39 BW with no oil or gas. IFL-600'. FFL-seating nipple. Entry last hour-none.

10/15/91: Acidized 7043-7068 with 2000 gals 15% HCL with balls. Very good diversion.

10/16/91: 13 hr SITP-380 psi. Swabbed 7043-7068 for 4 hrs, recovered 2 BO + 9 BW with trace of gas. IFL-surf. FFL-seating nipple. Entry last hour-1 BW.

10/17/91: Acidized 7043-7068 with 5000 gals 15% HCL with CO2 and no diverter.

10/18/91: 13 hr SITP-2200 psi. Swabbed 7043-7068 for 7 hrs, recovered 2 BO + 24 BW with a light blow of gas. IFL-2200'. FFL-seating nipple. Entry last hour-3 BW.

10/22/91: 16 hr SITP-2500 psi. Swabbed 7043-7068 for 3 hrs, recovered 1 BO + 1 BW with a light blow of gas. IFL-3100'. FFL-seating nipple. Entry last hour-1 BW.

10/26/91: Fraced 7043-7068 with 4500 gals gel and 5000# 20/40 interprop.

10/27/91: 21 hr SITP-150 psi. Swabbed 7043-7068 for 7 hrs, recovered 82 BW with a trace of oil & a light blow of gas. IFL-surf. FFL-seating nipple. Entry last hour-2 BW.

10/29/91: 16 hr SITP-2500 psi. Swabbed 7043-7068 for 6 hrs, recovered 11 BW with 5-10% oil & a light blow of gas. IFL-5500'. FFL-seating nipple. Entry last hour-2 BW.

10/30/91: Milled out retainer at 7075' and drilled out cmt down to lower retainer at 7096'.

10/31/91: Reperforated 7081-7090 (9', 36 holes).

11/01/91: Acidized 7081-7090 with 1000 gals 15% HCL with no diverter. Had communication with perfs 7043-7086.

11/02/91: 14 hr SITP-550 psi. Swabbed 7043-7090 for 6 hrs, recovered 28 BW with 5% oil & a light blow of gas. IFL-1800'. FFL-seating nipple. Entry last hour-2 BW.

12/06/91: Set 5-1/2" CIBP at 7072'. Perforated 7024-31 (7', 28 holes). Treated perfs 7024-7068 with 5000 gals of 20% methanol solution.

12/12/91: Fraced perfs 7024-7068 with 72,000 gals gelled water carrying 150,000# 20/40 sand.

12/16/91: Finished flow testing. Shut well in pending construction of tank battery.

Jess Dullnig
Neola, Utah
12/20/91

GEOLOGICAL WELL REPORT

PENNZOIL EXPLORATION AND PRODUCTION COMPANY

4-2A2 Duncan 43-013-31276

NE/SE Section 2 T1S R2W

Bluebell-Altamont Field

Duchesne County, Utah

Prepared by: Robert (Bob) Womack
Well-site Geologist
6935 S. Ogden Court
Littleton, CO 80122
(303) 798-1591

CONFIDENTIAL

TABLE OF CONTENTS

WELL DATA

OPERATOR:	Pennzoil Exploration and Production Company
WELL NAME:	#4-2A2 Duncan, Bluebell-Altamont Field
LOCATION:	1700 FNL, 660 FEL SE/NE/SE Sec. 2 T1S R2W
COUNTY:	Duchesne
STATE:	Utah
ELEVATION:	GL: 5979 KB: 5994
DRILLING FOREMAN:	Robert Griffee, DRW; Art Lebobo, DRW Operating Company
CONTRACTOR:	Grace Drilling, Rig 181
TOOLPUSHER:	Gene Oaches; Gary Ronhardt, Don Cain, relief toolpushers
DRAW WORKS:	National 370
DERRICK:	L. C. Moore; 127'
MOTORS:	2 - 3406 Caterpillar; 1 - 396 Caterpillar; 1 - Detroit Diesel
PUMPS:	#1 Gardner-Denver PZ7 6" liner; #2 Emsco P375 5" liner
MUD COMPANY:	M-I Drilling Fluids, Inc; Kenny Bascom, Mud Technician, Kyle Kelling, relief
MUD TYPE:	Water/gel
MUD LOGGING:	GEO, Inc.; Joe Dowling, Mark Duletsky
CASING:	3500' 8 5/8" surface casing
CEMENTERS:	Dowell/Schlumberger
HOLE SIZE:	11" hole to 3500'; 7 7/8" hole to TD
SAMPLES:	10' from 6300 - 8720 TD
COMMENCED:	Spudded @ 2000 hr. on 7/31/91
DATE TOTAL DEPTH:	TD @ 1915 hr. on 8/27/91
STATUS:	Run 5 1/2" Production casing
TOTAL DEPTH:	Driller's: 8720 Halliburton Logging Services: 8708

DAILY WELL CHRONOLOGY

DATE	DEPTH	DAILY FOOTAGE	DAY	REMARKS
8- 1-91	410	326	1	Rig up rig #181 14 hr, drlg 9 hr., rig repair .5 hr., Survey .5 hr., Spud: 2000 hr., 7/31/91 11" hole
8- 2-91	1504	1094	2	Drlg 18 hr., Trip 4.5 hr., Rig service (RS).5 hr., Surv. 1 hr.
8- 3-91	2194	690	3	Drlg 15.25 hr., Trip 7.75 hr., RS .5 hr., Surv. .5 hr.
8- 4-91	2719	525	4	Drlg 12 hr., Trip 9.5 hr., Surv. .5 hr., Cut drlg line 1 hr., RS .5 hr., Ream to Bottom .5 hr.
8- 5-91	3324	605	5	Drlg 15.5 hr., Trip 7.5 hr., Ream .5 hr., RS .5 hr.
8- 6-91	3500	176	6	Drlg 5 hr., Trip 8.5 hr., Ream .5 hr., Circ & cond. hole for surface casing 3 hr., Ran 3500' of 8 5/8" 28# csg 4 hr., Circ. casing 1.5 hr., Cement csg 1 hr., RS .5 hr.
8- 7-91	3500	-0-	7	Cement 3500' surface pipe 3.5 hr., WOC 7.5 hr., Nipple down Hydril 2 hr., Hook up, Nipple up & test BOP 11 hr.
8- 8-91	3764	264	8	Drlg 11.5 hr., P.U. BHA 2.5 hr., Drl cem 2 hr., Test BOP .5 hr., RS .5 hr.
8- 9-91	4360	596	9	Drlg 22.5 hr., Surv. 1, RS .5 hr
8-10-91	4933	573	10	Drlg 23 hr., Surv. .5 hr., RS .5 hr.
8-11-91	5325	392	11	Drlg. 17 hr., Trip 5.5 hr., Wash & ream .5 hr., Rig repair .5 hr., Surv. .5 hr.
8-12-91	5885	560	12	Drlg. 23 hr., Surv. .5 hr., RS .5 hr.
8-13-91	6360	475	13	Drlg 23.5 hr., RS .5 hr., GEO logging on @ 0254 hr. @ 6300'
8-14-91	6657	297	14	Drlg 15.5 hr., Trip 6 hr., Ream 1.5 hr., Survey 1.5 hr.
8-15-91	7025	368	15	Drlg 20 hr., Circ & cond. hole for core #1 3.5 hr., RS .5 hr.
8-16-91	7028	3	16	Coring 2 hr., Trip 9.5 hr., Circ & cond. mud 6.5 hr., Wash & ream 1.5 hr., Make up core bbl & cut drlg line 4 hr., RS .5 hr.

8-17-91	7085	60	17	Coring 14 hr., Trip 5 hr., W.O.O. 3.5 hr., RS .5 hr.
8-18-91	7141	56	18	Coring 20 hr., Trip 2 hr., Wash & ream 1.5 hr., RS .5 hr.
8-19-91	7144	3	19	Coring 1.5 hr., Trip 16 hr., Lay down core bbl & core 2 hr., Circ. 2 hr., DST #1 2 hr., RS .5 hr.
8-20-91	7217	73	20	Drilling 9 hr., Trip 10 hr., DST #1 4.5 hr., Wash & ream .5 hr.
8-21-91	7364	147	21	Drlg 17 hr., Trip 6 hr., Rig repair .5 hr., RS .5 hr.
8-22-91	7506	142	22	Drlg 14.5 hr., Trip 7 hr., Wash & ream 2 hr., RS .5 hr.
8-23-91	7681	175	23	Drlg 16 hr., Trip 7.5 hr., RS .5 hr.
8-24-91	7840	159	24	Drlg 15.5 hr., Trip 8 hr. (hole in DC), RS .5 hr.
8-25-91	8003	163	25	Drlg 16 hr., Trip 8 hr.
8-26-91	8298	295	26	Drlg 23 hr., Trip 1 hr.
8-27-91	8584	286	27	Drlg 23 hr., Rig repair .5 hr., RS .5 hr.
8-28-91	8720 TD	136	28	Drlg 13 hr., Trip 4 hr., Circ & cond mud for E-logs 6.5 hr., RS .5 hr.
8-29-91	8708	0	29	TD 1915 hr. 8-27-91 @ 8720 Halliburton depth 8708

FORM 25-772

DRILL STEM TEST

OPERATOR	WELL
Pennzoil	# 4-2A2 Duncan
COUNTY AND STATE	LOCATION
Duchesne Co., Utah	NE/SE Sec 2 T1S R2W

DST NO.	INTERVAL	FM
1	7015 – 7144	GR/Tg2

IO(5 min.) OP w/ 6" blow in bucket; blow bottom bucket 30 set;
16 psi in 3 min.
60 psi in 5 min

ISI(60 min.) SI w/60 psi GTS 19 min;
10'-12' flare died in 40 min

FO(75 min.) OP w/ 1/4" choke: 5 min 140 psi 230 MCF; 10 min 300 psi 430 MCF;
15 min 400 psi 600 MCF: 1/2" choke: 20 min 340 psi 2400 MCF;
25 min 320 psi 2400 MCF; 30 min 300 psi 2000 MCF – stable –
75 min 300 psi 2000 MCF

FSI(240 min.)

DP REC: 744' (4.9 bbls.) Heavily Gas Cut mud

SCR: (SC Vol 2400 cc)
2400 cc dry gas

GAS 3.96 CFG @ 650 psi

OIL — °API @ — °F

HALLIBURTON Reservoir Testing Scott Brown, Tester

TOP RECORDER (6992')

TIME		
	IHP	3258 #
5 min.	IFP	174 # – 174 #
60 min.	ISIP	3127 #
75 min.	FFP	304 # – 651 #
250 min.	FSIP	3039 #
	FHP	3258 #
	BHT	122 °F

BOTTOM RECORDER (7140')

TIME		
	IHP	3388 #
5 min.	IFP	263 # – 263 #
60 min.	ISIP	3125 #
___ min.	FFP	351 # – 680 #
___ min.	FSIP	3103 #
	FHP	3344 #
	BHT	122 °F

Rw's and CHLORIDES: (Cl⁻ x 1.65 = NaCl)

Spl. Chbr.	Rw —	@ —	°F —	PPM
Top DP	Rw 2.2	@ 84	°F 1300	PPM
Mid DP	Rw —	@ —	°F —	PPM
Bottom DP	Rw 2.2	@ 84	°F 1300	PPM
Filtrate	Rw	@	°F	PPM
Pit Mud	Rw 2.06	@ 84	°F 1500	PPM
Rec. Mud	Rw	@	°F	PPM

MUD PROPERTIES

MUD WT. 9.0 VIS 38

pH WL

Cl⁻ Ca

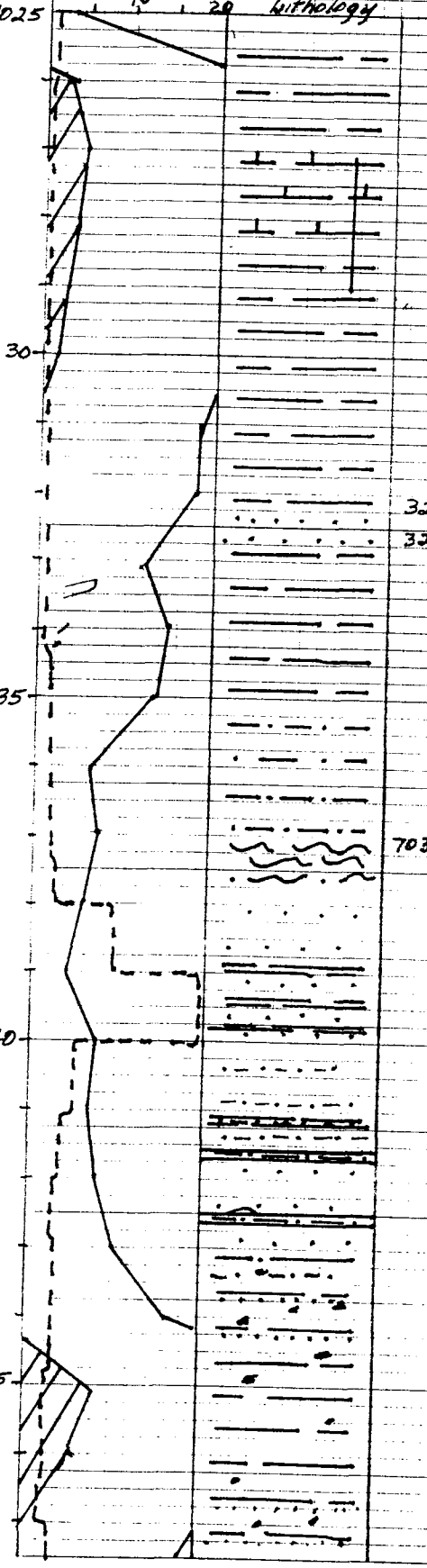
Nitrates

COMPARATIVE FORMATION TOPS

#4-2A2 Duncan
Duchesne County, Utah

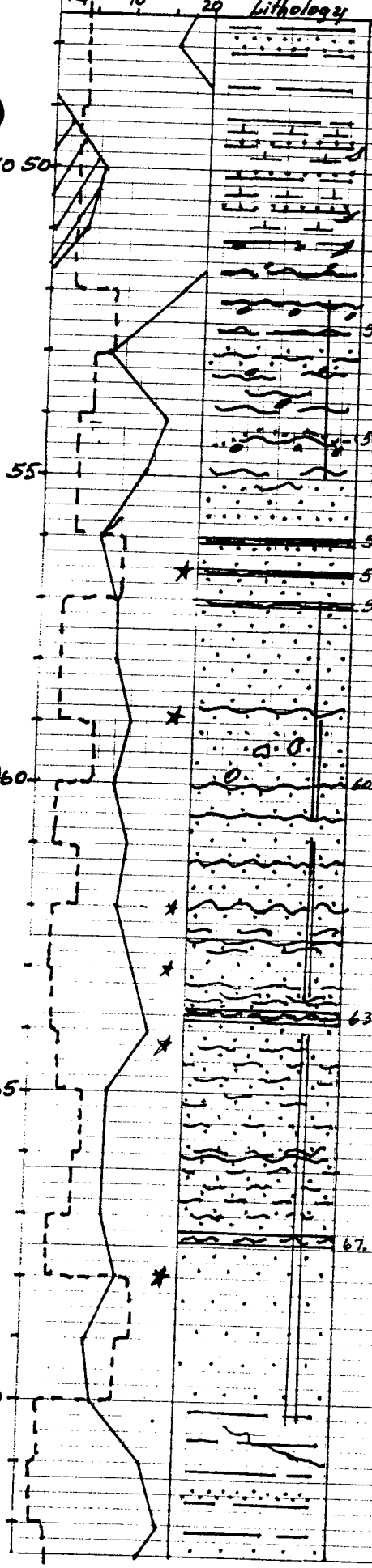
	Pennzoil #4-2A2 Duncan KB 5994						Pennzoil #1-2A2 Mecham KB 5916	
	Prognosis		Sample Tops		E-Logs		E-Logs	
Formation	Depth	Datum	Depth	Datum	Depth	Datum	Depth	Datum
Green River	6685	-691	6701	-710	6698	-704	6625	-709
GR/Tg2	6915	-921	6909	-915	6913	-919	6830	-914
GR/Tgm	7131	-1137	7143	-1149	7131	-1137	7048	-1132
GR/Z	7272	-1248	7283	-1289	7261	-1267	7191	-1275
Evacuation Crk	7389	-1395	7414	-1420	7443	-1449	7320	-1404
Trona I	7897	-1903	7910	-1916	7886	-1892	7820	-1904
GR/C3	8260	-2266	8268	-2274	8265	-2271	8190	-2274
Parachute Crk	8475	-2481	8508	-2514	8518	-2524	8410	-2494
Mahogany Bench	8625	-2631	8615	-2621	8599	-2605	8532	-2616

CORE No. 1 7025 - 7085



	Description	Mud Wt
	Sh m/dk gry, hd, calc sli silic ip v. fn dissem biot mica	
	sh dk gry/gry-brn v. calc to lmy pp bleed oil on frac surf w/dul gld fluor diffused yel cut may grade to ls ip	
	sh dk gry/gry-brn bcmg sli dolo'tc min veins of poss siderite xln occ pyr clusters	
32.2 – 32.6	Ss clr vf/fg calc hd well consol occ mg imbd sli pyr'tc	
	Sh dk gry/gry-brn lamin w/ pyr tr fossil foliage @ 7034	
	Siltstone lt gry calc sm thin streaks vfg Ss, hd, tite, pyr'tc w/occ f/mg imbedded & scat blk carb mat	8.6
7036.9 - 37	Sh wavy probable disturbed zone	
	Ss clr/lt brn fg n-pr poro occ mg w/sli fr poro w/even dul yel fluor v slo strm cut yel cut diffusing to pale yel	
	Ss w/ thin interbd sh dk gry-gry-brn grad to slty v. pyr'tc sl dolo'tc	8.6
	siltst lt/m gry-brn calc argil ip grad to ss vfg w/ v. fine lamin slty sh pyr'tc no show	
	sh dk brn/gry-brn calc hd scat blk carb mat sl pyr'tc NBFOC scat fg sd sm in clusters w/ v. thin lamin ss	8.6
		8.6

PENNZOIL #4-2A2 DUNCAN CORE #1



MUD WT.

1" Ss clr/drty wht/lt gry vfg hd tite

Sh dk brn/gry-brn calc/limy hd grading to ls, argil, pyr incl thin lamin vfg Ss tr foss foliage in sm sh partings — 8.6

Sh dk brn/gry-brn incr blk carb mat & biot mica thin lamin vfg Ss in wavy sh structure — 8.6
Open vertical frac no vis show

thin lamin vfg Ss
Sh bcmg v calc

SS clr/lt brn-gry fg ang/subang calc scat sh & carb mat hd tite dull yel fluor slo strmg pale yel cut pass from carb mat. v. finly dissemin pyrite — 8.6
sh interbd w/ Ss wavy disturbed environ.
Closed vertical frac, bcmg more open w/depth

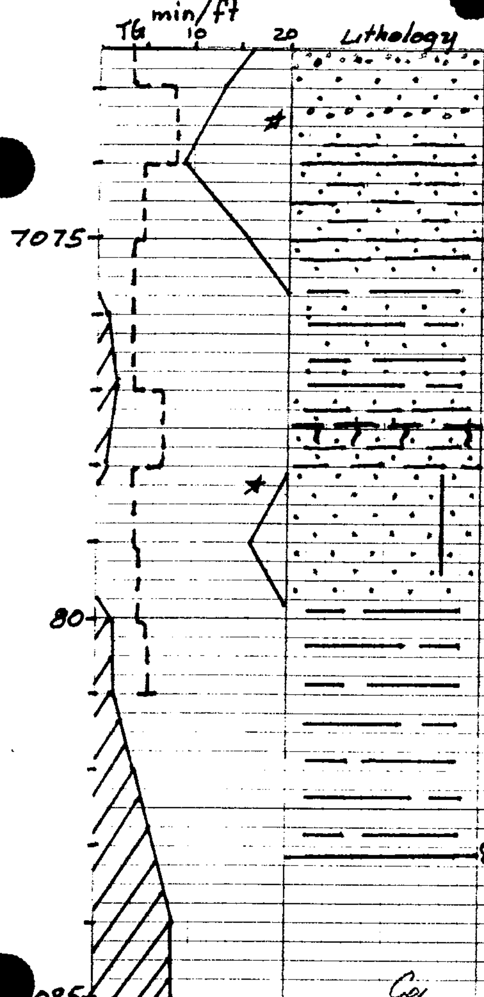
Ss a/a w/ 1" layer w/ f/mg gd vis oil st pr/fr perm pale yel fluor ft bri yel cut parallel vert frac 2mm apart w/ oil bleed fr surf
horiz. frac closed
Sh v. thin dk gry stngrs, wavy w/ coarser gr Ss above and below sh stngrs NSFOC

Ss lt gry vf/fg calc subang tr pr intergr Φ tr dul gld fluor, slo strng bri yel cut — 86
Ss a/a w/ thin interbd blk carb sh w/oil bleeding on frac surf sm wavy sh lamin .5-1mm
Sh 1" layer v. pyr'tc no vis show
Ss lt gry-brn vfg occ fg hd tite .5-1mm ravved lamin pyr'tc sm wavy w/oil st on ll vert frac (2-3mm apart) w/ dul gld fluor qk diff bri yel cut

8.7

Ss lt brn vf/fg wel sort calc pr/fr intergr Φ scat blk carb frag w/ few dk gry/blk sh partings even dul yel fluor qk diff bri yel-wht cut w/ slo strng cut short duration ll vert frac v. close (1-2 mm apart)
Sh dk gry/gry-brn sl calc scat pyr cl thin calcite along closed ~30° frac thin strk Ss (5mm) clr/lt brn no show — 8.7

PENNZOIL #4-2A2 DUNCAN CORE #1



Depth	Description	MUD Wt
73.5	thin crs gr Ss flmg gd vis oil st pr/fr pore dul gld fluor w/ qk diff bri yel cut @ 7073.5' (2-3 mm thick)	
	Ss clr/wht/lt gry fg calc cem; sm silic cem ip hd tite tr dull gld fluor s/a diff pale yel cut thin dk sh or gilsonite partings	
	Ss as above w/ thin lamin dk gry sh scat blk carb mat frags	8.8
75.5	Sh dk gry/brn gry calc blky sl aren ip vein of pyr cube in lamin - molds of cubic xln in sh	
	Ss lt gry vfg calc hd tite thin lamin sh dk gry pyrite poss burrowing under sh brk @7077.5	
77.5	Ss lt gry/gry-brn vf/fg hd tite thin lamin ~~to~~ varved w/dk gry sh bleeding oil on closed vert frac surf sl stain into Ss w/ tr pr intergr Ø even gld fluor w/ qk mod bri yel-wht cut sh duration	8.7+
79.8	Sh dk gry v. homogen texture v. sl pyrite	
	Sh dk gry-brn calc hd thin incl slt & vfg Ss few scat frags blk carb mat and v. fn dissemin. pyr.	8.8
83.3	Note: measured core to 7083.3 originally thought "rubble" would make up completed core interval to 7085; however, on completion of Core No. 2 7085-7144 it was determined the top 1'-1.5' of Core #2 was actually the bottom of Core No. 1 which remained in hole as "stub" and the core bbl slipped over this after re-entry for Core #2	8.8

- Core No. 1 was cored by Eastman-Christensen using a diamond core head C201 recovered in good condition. Aluminum inner barrel or sleeves were used, but were not cut as core was laid down in conventional manner.

- Vertical closed fractures with none to very slight calcite lining were present throughout the cored interval. Spotty oil stain was observed on fracture surfaces (★) No bubbling of gas was observed in this cored interval.

Pennzoil
#4-2A2 Duncan
Core #1 7025-7083.3

7025 - 7027	Shale, medium/dark gray to gray-brown, calcareous, hard, slightly siliceous in part, very finely disseminated biotite mica.
7027 - 7029	Shale, dark gray/gray-brown, very calcareous grading to very limy in part, grading to limestone, hard, light trace pinpoint bleeding oil on fracture surfaces with dull gold fluorescence and yellow gold diffused cut, pyritic inclusions with some possible siderite crystallization in fractures. Closed fractures on core with bleeding oil in fracture surfaces.
7029 - 7032.2	Shale, dark gray/gray-brown, calcareous, some becoming slightly dolomitic with finely disseminated biotite mica fragments and minute veins of possible siderite crystals, very hard, occasional pyrite clusters.
7032.2 - 7032.6	Sandstone, clear/translucent, very fine/fine grain, subangular/subrounded, calcareous cement, well consolidated, hard, tight, slightly argillaceous in part, occasional medium size grain imbedded, angular, slightly pyritic.
7032.6 - 7035	Shale, as above, very pyritic, in part, with some pyrite streaks through lamination surfaces, becoming less pyritic and calcareous with depth. Trace fossil foliage.
7-35 - 7037	Siltstone, light gray, calcareous, grading to very fine grain sandstone, clear, subangular, hard, tight, with pyrite inclusions and occasional imbedded fine grain sized sand grains and scattered black carbonaceous shale fragments, with wavy disturbed shale break @ 7036.9-7037 of approximately 5 mm thickness, very pyritic.
7037 - 7038	Sandstone, clear/light brown, very fine/fine grain, subangular calcareous, well cemented, occasional imbedded medium size grain with an even medium bright yellow fluorescence with slow, bright yellow cut, trace of poor intergranular porosity.
7038 - 7039	Sandstone, clear/light brown, fine grain with occasional medium size grain, subangular/subrounded, fair sorting, none to poor intergranular porosity, with occasional slight streak of fair porosity when fine grain/medium grain are in contact. Even dull yellow fluorescence with very slow streaming bright yellow cut becoming diffused with time.
7039 - 7040	Sandstone, as above, with thin interbedded shale, dark gray-brown, calcareous, grading from arenaceous in contact with sandstone, to silty to a very pyritic, black shale, less calcareous, becoming slightly dolomitic.
7040 - 7043	Siltstone, light/medium gray-brown, calcareous, argillaceous, hard, tight, with slight gradings to very fine grain sandstone and very fine laminations of silty shale, pyritic, no show.

7043 - 7048 Shale, dark brown/gray-brown, hard, calcareous, with scattered black carbonaceous material, slightly pyritic, no show, fluorescence or oil cut, slight scattering of fine grain sand grains, some in clusters. Very thinly laminated with sandstone

7048 - 7049 Shale, dark brown/gray-brown, calcareous, hard, massive, less pyritic inclusions and carbonaceous material. Very dull gold mineral fluorescence.

7049 - 7051 Shale, dark brown/gray-brown, calcareous to limy, hard, with increase pyrite inclusions, few scattered biotite mica fragments silty in part with thin laminations of very fine grain sandstone. Trace fossil foliage in some shale partings.

7051 - 7055 Shale, as above, with increase black carbonaceous material and biotite mica with very thin laminations of very fine/fine grain sandstone in a wavy structure, possibly indicating a disturbed depositional environment.

7055 - 7056 Sandstone, clear/light brown-gray, fine/medium grain, angular/subangular, calcareous, well cemented, with scattered fragments of argillaceous and carbonaceous material, hard, tight, with dull yellow fluorescence and slow streaming pale yellow-white cut of short duration.

7056 - 7058 Sandstone, light gray/gray-brown, very fine grain, subangular/subround, calcareous cement moderately sorted, hard, tight, very thinly laminated dark gray shale, no fluorescence or cut, with very finely disseminated pyrite with .1" shale streaks at 7056.5 and 7057.1.

7058 - 7059 Sandstone, clear/light gray, very fine/fine grain, subangular/subround, calcareous cement, hard, tight, very finally disseminated pyrite and biotite mica, no show, fluorescence, or oil cut with very thin layers shale, dark gray, large amount of pyrite clusters.

7059 - 7060 Sandstone, as above, with 1" layer of sandstone, clear/light gray, fine/medium grain, subround, calcareous cement, with trace clay clasts with good visual stain, poor to fair porosity in part with pale yellow fluorescence and fast bright yellow cut; parallel vertical fractures (2 mm apart) with oil bleeding from surfaces with spotty bright gold fluorescence and quick bright yellow-white cut.

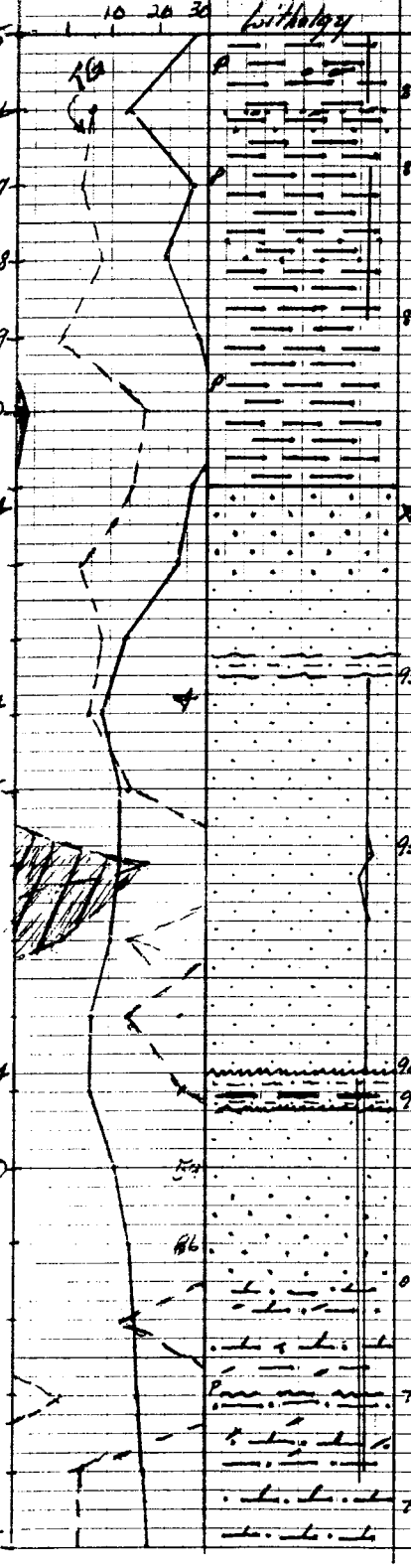
7060 - 7061 Sandstone, light gray, very fine grain, calcareous cement, moderately sorted, hard, tight, with scattered medium size grain imbedded angular, clear, no show, fluorescence or oil cut with thin laminations of dark gray shale with coarse grained sandstone above and below shale grading to very fine grain sandstone.

7061 - 7062 Sandstone, light gray, very fine/fine grain, calcareous, subangular/sub round with trace poor intergranular porosity with thin streaks having fair porosity with dull gold fluorescence and slow streaming bright yellow cut. It is possible that the parallel fracturing through this zone may be responsible for slightly more porosity and invasion of the matrix by oil on the fracture surfaces.

7062 - 7063	Sandstone, light gray, very fine grain, subangular/subround, calcareous, hard, tight, with thin interbedded black carbonaceous shale, with oil bleeding on fracture surfaces.
7063 - 7063.2	Sandstone, light/medium gray, very fine/fine grain, subangular/subround, moderately sorted, hard, tight, with .5-1 mm varved argillaceous laminations and gilsonite partings, no show, fluorescence, or oil cut and 1 inch dark gray shale layer at 7063.5, very finely pyritic, becoming more undulating or wavy at 7063.2 indicating possible disturbed depositional environment, no stain, no fluorescence, slight residual cut from gilsonite.
7063.2 - 7064	Sandstone, light brown, very fine grain, subangular/subround, calcareous, hard, tight, very slightly pyritic with very thin laminations of dark gray shale. Sandstone with even dull yellow fluorescence with quick diffused bright yellow cut.
7064 - 7068	Sandstone, light gray/gray-brown, very fine grain, subangular/subround, occasional fine grain, hard, tight, .5-1 mm varved argillaceous laminations, pyritic, some stylolitic, wavy with oil stain on thin (2-3mm) parallel vertical surfaces with dull gold fluorescence and quick diffused bright yellow cut.
7068 - 7070	Sandstone, light brown, very fine/fine grain, subangular/subround well sorted, calcareous cement, poor/fair intergranular porosity, slight scattering of black carbonaceous grains and occasional very thin gilsonite partings with even dull yellow fluorescence and quick diffused bright yellow-white cut, followed by slow streaming cut of very short duration.
7070 - 7072	Shale, dark gray/brown-gray, slightly calcareous with scattered pyrite cluster inclusions and thin calcite views along closed fractures of approximately 30^{o} to vertical observed in whole core, hard, brittle with thin (5mm) streak sandstone, clear/light brown, fine grain, subround, calcareous, hard, tight, argillaceous, grading into shale, with appearing brown oil stain, no fluorescence, no cut.
7072 - 7074	Sandstone, clear/white/light gray, fine grain, subangular/sub round, calcareous cement, moderate sort, hard, tight, silica cement in part, some quartz sand grains fractured, trace bright gold fluorescence and slow, diffused pale yellow cut with thin laminated gilsonite, dark gray/black, very pyritic. Thin (2-3mm) sandstone @ 7073.5, clear/brown, fine/medium grain, subangular, calcareous with good visible oil stain, poor/fair intergranular porosity with dull yellow fluorescence and quick, diffused bright yellow-white cut and then slow streaming cut of short duration.
7074 - 7075.5	Sandstone, light gray, very fine/fine grain, subangular/subround well sorted, hard, tight, calcareous cement with thin laminations of dark gray shale with black carbonaceous material scattered throughout, no show, fluorescence, or oil cut.

7075.5 - 7077	Shale, dark gray/gray-brown, calcareous, blocky, slightly arenaceous in part, vein of pyrite crystals in small fractures with many cubic crystalline molds left in shale and very thin laminate of gilsonite.
7077 - 7078	Sandstone, light gray, very fine grain, calcareous cement, hard, tight, with thin laminations of dark gray shale with thicker streaks of shale becoming very pyritic and seams of pyrite along vertical contacts between shale and sandstone.
7078 - 7079.8	Sandstone, light gray, very fine/fine grain, subangular/subround, Bleeding oil on vertical fracture face with invasion of oil into surrounding matrix of sandstone with some poor intergranular porosity, having an even dull gold fluorescence and quick moderately bright yellow-white cut of very short duration, lightly horizontal bonding of dark gray argillaceous streaks throughout.
7079.8 - 7081	Shale, dark steel gray, very homogenous texture, very slightly pyritic.
7081 - 7083.3	Shale, dark gray-brown, calcareous, hard, with thin inclusions of silt and very fine grain sandstone grain. Few scattered fragments of black carbonaceous material and trace of pyrite.

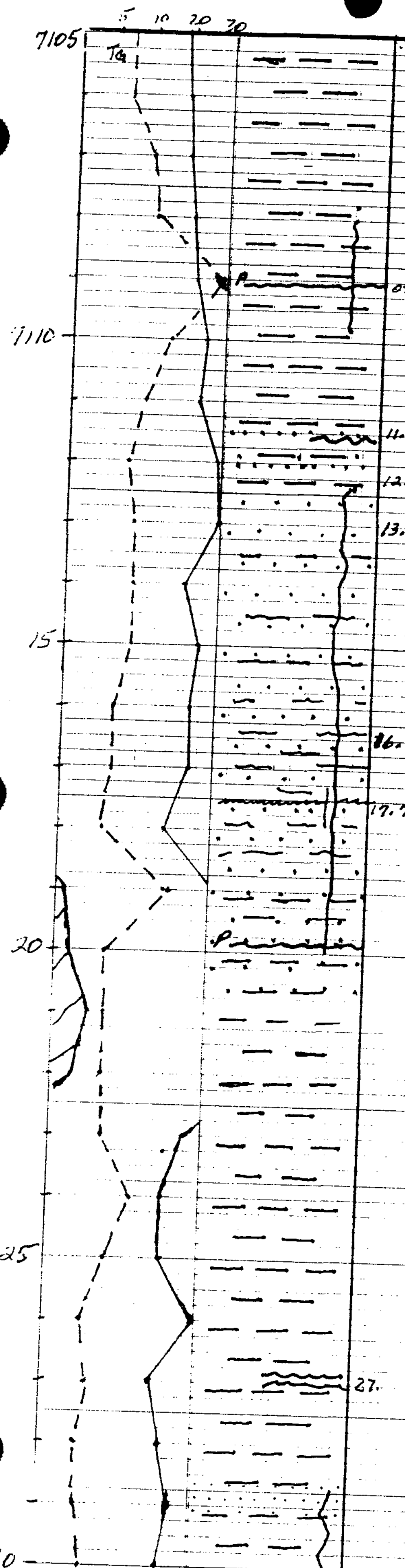
#4-2A2 DUNCAN
Core #2 7085-7145



	Description	Mud Wt
85.9	Sh dk brn calc blky hd smooth fnly disseminated pyr xln, mica, & blk carb mat highly vert frac. V. thin lamin Ss clr/lt gry vfg/silt calc	
86.8	Sh a/a hi frac vert 86.8 - 88.8	8.8
88.8		8.8
	Ss lt brn/gry-brn vf/fg subang calc sli pyr'tic scat dk gry sh frag hd tite even dull yel fluor qk diffused bri yel-grn cut	8.8
93.5	Ss a/a w/ acc scat f/crs lse sd gr hi frac tr pr/ft sel poro around crs sd gr w/dull even	8.8
95.4	v. hi frac 7097-97.5 w/ thin calcite lining - min v. calcite veins not continous horiz - sm connect, sm do not (veins 1-2 mm wide)	
98.7	stylolite w/ dk brn oil spotting on surf sli oil	
99.3	stn in matrix above stylolite @ 98.7 & 99.3	
7101-1.2	Slt st lt gry/lt brn, calc, tite, v. thin veins calcite	8.8
	xln in parallel vert. frac (7-8 mm apart)	
	Slt st tan/lt brn tr scat pr pp ◊ w/dull yel fluor w/gd bri yel-grn cut w/ blk carb sh incl.	
01.6	Sh dk gry/gry-brn dolo'tic fnly pyr'tic, mica scat poss gilsonite frag 1 mm layer pyr @ 7103.5	
7103.5		8.8+
7104.5	Sh a/a tr blk carb foss plant debris	

Pennzoil #4-2A2 Duncan Core #2

MUD Wt



sh a/a becmg darker sli dolo'tc fn dissem pyr & gilsonite frags. — 8.8

sh a/a v. dolo'tc abund blk carb foss plant debris

09.3 .5mm vein pyr app clusters on surf. — 8.8+

11.5 sh dk gry-brn v. dolo'tc/calc v. sli bleeding oil from lamin v. thin layers Ss clr vf/fg no fluor, no cut horiz frac @ 7111.5 — 8.8+

12.3 vert frac start

13.1 Ss lt/m gry vf/fg calc oil bleed fr. 13.1-13.3 sli matrix stn w/gd gld-yel fluor on frac surf. w/ dk gry/gry-brn sh incl v. carb ip — 8.8

16.5 Ss m gry vfg wel srt open frac w/gd bleed dk brn oil w/ hvy gas bubbling no calcite lining @ 16.5 — 9.0

17.7 stylolite w/ hvy oil on surf

Ss a/a sm || frac gd vis stn mod bri grn-gld fluor qk diffused bri grn-yel cut fr matrix stn

Ss-sh interbd w/ op v. frac w/sli dull yel fluor in sd (tite) tr gd qk yel-grn cut thin sh layers w/ pyr clusters — 9.0

18-20 Ss m gry-brn fg calc sli pyr'tc w/ v. thin blk carb layers w/ dul yel diff cut no show in Ss maxtrix — 9.0

20- sh, dk gry-brn v. dolo'tc/sli calc blk carb frags

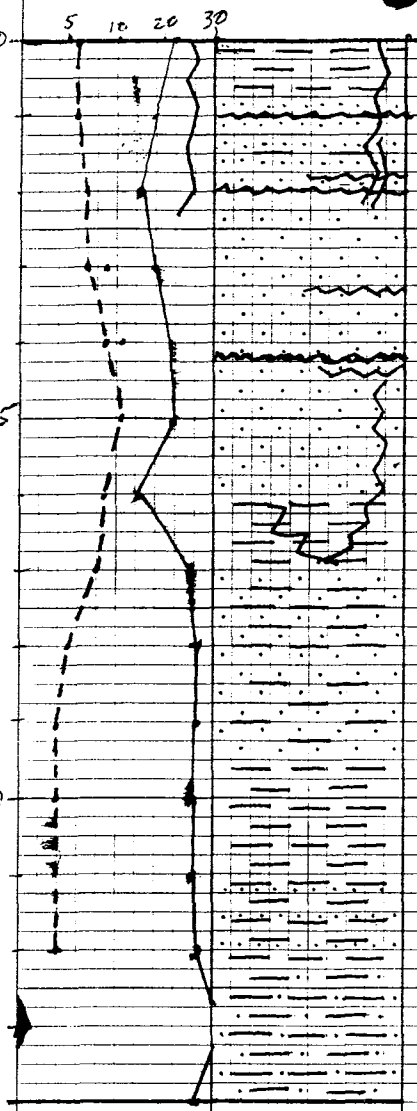
Sh v. dk gry-brn sli calc fn dissem black carb mat. — 9.0

sh dk brn-gry dolo'tc scat spots oil — 9.0

27. horiz frac w/ sli bleeding from surf v fnly pyr

9.0

28.5 Ss m/d gry-brn vf/mg v. argil ip dolo'tc v. pyr'tc w/clay clasts wht/lt grn scat gilsonite frag, vert frac w/ sm oil spots on frac surf. sli bleeding no calcite lining



MUD WT.

8.3

30.8 Ss lt gry/tan vf/fg interbd thin layers dk gry sh, sdy/slty ip sli bleeding oil 7131.6 – 32.2 on frac surf stylolite @ 30.8 — 9.0

31.6 Ss clr/lt gry/lt brn f/mg occ crs gr w/ dk gry sh frag scat, mica sli s&p text, tite lt frag (.5mm apart) w/ bl oil on surf 7131.6 – 32.2 bri gold fluor pk bri yel cut cading at stylolite @ 7132.2 — 9.0

33.2–35 Ss clr/gry-brn vf/fg w consol tite hd w/gd vis oil stn bry bl oil sli bubbling gas 7133 – 34 horiz frac @ 7134 w/ sli bl oil & v. sli bubbling gas

7135–36 Ss clr/m brn vfg occ f/mg dolo 'tic w consol p/f intgr poro dul yel fluor pk dirt bri yel cut — 9.0

7136–37 Sh dk gry-brn dolo 'tic w/ scat blk carb foss plant debris two closed vert frac end @ 7137 @ 120° to one other

7137–38 Ss lt gry vf/mg v. argil w/ clay clasts sm ls frag

7138–39.5 Ss drty wht f/mg sli calc sm silic ccm sli qtz 'tic hd scat dk gry sh & wht clay clasts — 9.0

7139.5–41 Sh dk brn/gry-brn sl calc v. fn dissem mica banded blk carb mat

Sh dk gry-brn firm hd smooth text calc v. fn interbd Ss tan/brn vfg well ccm v. fn pyr 'tic tr v. dull gld fluor no cut — 9.0

Sh dk gry-brn sdy sl calc sm silic ccm tite hd tr scat v. sm lt grn clay clast — 9.0

Note: the top 1'–1.5' of Core No. 2 is the bottom 1'–1.5' of Core No. 1 (7083.3–85)

Core No. 2 was cored by Eastman-Christensen using diamond core head C201 which was used for Core No. 1 The core head was in fair/good condition as was the aluminum inner barrel

Vertical closed & open fractures were encountered with good gas bubbling and bleeding oil present in several zones. This bleeding and bubbling combined to produce a frothy effect up to two hours after the core had been laid down and was boxed up to be transported to Core Lab in Denver.

Pennzoil
#4-2A2 Duncan
Core #2 7085-7144

7085 - 7086.7 Shale, dark brown/gray-brown, calcareous, blocky, very finely disseminated biotite mica flakes and pyrite crystals. Trace of very fine black carbonaceous specks. Highly fractured vertically down to 7085.7

7086.7 - 7086.8 Shale, dark brown/gray brown, calcareous, blocky with scattered pyrite crystal clusters and finely banded sandstone, clear, light gray, very fine grain silt, calcareous.

7086.8 - 7091 Shale, dark brown/gray-brown, calcareous, blocky, very finely disseminated mica, firm, highly fractured vertically from 7086.8 - 7088.8. Slight trace of very fine pyrite crystal and occasional black carbonaceous material specks.

7091 - 7093 Sandstone, clear/light brown/light gray-brown, very fine/fine grain subangular/subrounded, calcareous, slightly pyritic, scattered dark gray shale fragments, none-poor intergranular porosity with even dull yellow fluorescence, quick diffused bright yellow green cut becoming very bright yellow-white. Trace of slow streaming cut off same.

7093 - 7095.4 Sandstone, light brown/gray-brown, very fine grain, subrounded, well sorted, pyritic, scattered fine grained with occasional medium sized grain. Tight overall, but some solution porosity around coarser, scattered grains with even dull gold fluorescence with quick diffused bright yellow cut followed by a slow streaming bright yellow-white cut. Thin layers (5-7 mm) of light gray siltstone and dark gray shale (1-2mm) @ 7093.5 and closed vertical fractures start at this point downward.

7095.4 - 7097 Sandstone, as above, closed vertical fracture filled with 1 mm clear/white calcite crystals with a parallel vein of calcite approximately 1.5-2 mm. Thin interbeds (1-2mm) of light/medium gray siltstone, becoming very argillaceous in part.

7097 - 7097.5 Sandstone, as above, grading to silt size grain in part, closed vertical fracture with calcite fill persists at this point. Very tight, occasional poor/fair porosity around imbedded fine/medium grains.

7097.5 - 7098.7 Sandstone, light gray-brown/light brown, very fine grain, calcareous, tight with multiple parallel vertical fractures 5-7 mm apart, calcite filled, pyritic with horizontal dark gray black shale parting, very pyritic, at 7098.7, with bleeding dark red-brown oil from sandstone with good visual oil stain and dull gold fluorescence, quick bright yellow diffused cut, followed by slow streaming bright yellow cut and residue.

7098.7 - 7099 Siltstone, light gray/light brown, calcareous, tight, pyritic occasional vertical thin veins of fine/medium grain sandstone and horizontally and thinly laminated to varved dark gray shale and very thin ($<$ .5 mm), parallel (7-8 mm apart), and vertical veins of white crystalline calcite which may fill a vertical

fracture, dark gray shale grades downward to 7099.3 to a black carbonaceous shale 2 mm thin with imbedded pyrite clusters.

7099 - 7100 Sandstone, light gray/light gray-brown, very fine/fine grain with occasional imbedded medium grain, subround, scattered black carbonaceous fragments, tight, no show, fluorescence, or oil cut.

7100 - 7101 Sandstone, clear/light brown, fine grain, subangular, with occasional imbedded medium/coarse grains, scattered dark gray shale fragments, poor intergranular porosity, very thin calcite vein from lining of vertical fracture with spots of dark brown oil on surface.

7101 - 7101.2 Siltstone, tan, calcareous, tight, trace dull yellow fluorescence with fair yellow-green cut.

7101.2 - 7101.6 Sandstone, medium gray, very fine grain, subround, moderately well sorted, hard, tight, with abundant scattered black carbonaceous material imbedded in sandstone and disseminated pyrite and becoming darker gray with depth to dark gray to black shale @ 7101.6.

7101.6 - 7104 Shale, dark gray/gray-brown, platy, slightly silty, very dolomitic with finely disseminated mica and pyrite clusters, scattered very fine gilsonite fragments, 1 mm layer of pyrite @ 7103.5.

7104 - 7106 Shale, dark gray/gray-brown/black, silty, slightly dolomitic, hard, smooth with very finely disseminated mica and gilsonite fragments. Trace of black carbonaceous fossil plant debris @ 7104.5, increasing at 7105.5.

7106 - 7107 Shale, dark gray-brown/black, very dolomitic, possibly argillaceous dolomite, very hard, silty in part, very slightly pyritic, becoming slightly more pyritic @ 7106.5 on.

7107 - 7108 Shale, as above with slight increase black carbonaceous material. Vertical fracture begins and runs through 7110. No calcite lining visible. Cannot determine if fracture was closed or open.

7108 - 7109.5 Shale, as above, very dolomitic, slightly calcareous in part, with abundant black carbonaceous plant debris or possible insect fossil, with a very thin (.5 mm) vein of pyrite @ 7109.3 which appears as clusters on plane surface.

7109.5 - 7112.3 Shale, as above, very dolomitic with very slight bleeding oil from tight laminations @ 7111.5 and very thin veins of sandstone clear, fine grain, subangular, no fluorescence, no cut from oil.

7112.3 - 7113.1 Vertical fractures start @ 7112.3 down through 7120, sandstone, light/medium gray, very fine/fine grain, well sorted, subangular none-poor intergranular porosity, thin black carbonaceous material stringers with stylolite @ 7112.3 with thick oil spots on surface, grades no oil to good oil stain on fracture surface, slight invasion of oil stain into matrix, but very little.

7113.1 - 7113.3 Sandstone, clear/light gray, very fine/fine grain, occasional medium grain, subangular/subrounded, salt and pepper, well sorted, some thin dark gray shale stringers, trace fair intergranular porosity, good overall matrix stain, good overall yellow fluorescence with spotty bleeding from matrix; best bleeding on fracture surface, with quick bright yellow/yellow-green cut.

7113.3 - 7114 Sandstone, light gray, very fine grain, subangular/subround, well sorted with good yellow fluorescence and bright yellow/yellow-green cut.

7114 - 7115.5 Sandstone, light gray, very fine/fine grain, subangular/subround, well sorted, occasional medium grain, tight, argillaceous fill, with wavy shale streaks indicating slightly disturbed deposition, pyritic, with thin layers of pyrite running through. Some argillaceous grading into thin dark gray-black/black carbonaceous shale breaks. Trace very slight dull cut from sand-shale contacts.

7115.5 - 7116.5 Horizontal fracture with light stain and very slight bleeding @ 7115.5, Sandstone, light gray/light brown, very fine/fine grain, subangular/subround, well sorted, none-poor intergranular porosity, scattered carbonaceous material fragments, salt and pepper, very finely disseminated pyrite with very light brown oil stain in nearly closed fracture, with dull yellow fluorescence, quick diffused bright yellow-green cut.

7116.5 - 7117.7 Sandstone, clear/medium brown, very fine/fine grain, calcareous, well sorted, subangular, black carbonaceous shale inclusions and fragments, poor intergranular porosity in matrix with fair porosity at shale-sandstone contact with spots of thick dark red-brown oil forming good even moderately bright yellow fluorescence and quick diffused bright yellow-green cut followed by slower streaming bright yellow green cut. Start of open fracture (2-3 mm) with good bleeding oil and bubbling gas becoming nearly frothy the longer the core was out. Stylolite at 7116.8 with oil spots on surface.

7117.7 - 7118.3 Sandstone, as above, trace parallel vertical fractures. Good overall visual stain, yellow-green fluorescence, quick diffused bright yellow-white cut followed by slow streaming very bright yellow-white cut. Matrix intergranular porosity poor with thin fair streaks of porosity at sand-shale contacts, some bleeds dark red-brown oil at minute sand-shale contacts. Multiple fracturing in this interval.

7118.3 - 7119 Shale, dark gray-brown, silty, splintery in part calcareous, very dolomitic in part, slight scattering pyrite, crystalline with thin inclusions black carbonaceous shale, very pyritic with some pyrite clusters mottled with sandstone, as above, some sandstone with fair yellow-green cut, very fractured with slight yellow fluorescence on surface, trace small spots of bleeding oil on fractured surface.

7119 - 7120 Sandstone, medium gray-brown-gray, very fine grain, dolomitic, slightly calcareous in part, argillaceous, slightly pyritic with scattered black carbonaceous material and thin stringers of black carbonaceous shale. Matrix generally tight with trace poor/fair

intergranular porosity along very thin streaks fine grain sandstone which runs through speciman, occasional medium sized grain with shale contact at 7119.6. Vertical fracturing ends at this point.

7120 - 7122 Shale, dark gray-brown, dolomitic, slightly calcareous in part, slightly silty in part, smooth with scattered clusters and veins of crystalline pyrite with mold indentations left on parting surfaces. Very finely disseminated black carbonaceous material, possibly gilsonite. Trace gilsonite on parting surface.

7122 - 7124 Shale, as above, becoming less pyritic.

7124 - 7126.5 Shale, very dark gray-brown, dolomitic, slightly calcareous in part with scattered possible fossil plant debris. Very finely disseminated black carbonaceous material fragments and pyrite.

7126.5 - 7127 Shale, dark gray-brown, dolomitic, sandy, very pyritic with spots of oil, thin layers black carbonaceous shale on cleavage surfaces. Horizontal fractures with slight bleeding from surfaces which have scattered black carbonaceous material and very pyritic.

7127 - 7128.5 Shale, as above, slightly varved with very thin laminations of fine pyrite, crystalline, and black carbonaceous material. Very finely disseminated pyrite and mica.

7128.5 - 7129 Sandstone, medium/dark gray-brown, very fine/medium grain, subangular, occasional coarse grain, subround, very argillaceous in part, dolomitic, very pyritic, with clay clasts, white/light green, trace gilsonite fragments scattered. Closed vertical fracture to 7132 with small oil spots on fractured surface. Possible slight bleeding, no calcite lining.

7129 - 7130.8 Shale, dark brown/gray-brown, dolomitic, very finely disseminated pyrite, with thin partings of black carbonaceous material. (Possible fossil plant parts.) Very thin streaks sandstone, clear/brown, very fine grain, with dull yellow mineral fluorescence in horizontal bands.

7130.8 Stylolite with slight bleeding oil on surface.

7130.8 - 7131.6 Sandstone, light gray/tan, very fine/fine grain, tight interbed with very thin layers dark gray shale, sandy-silty in part with slight bleeding oil @ 7131.6-7132.2 on fracture surface. Could not tell if fracture was open or closed.

7131.6 - 7132.2 Sandstone, clear/light gray/light brown, fine/medium grain occasional coarse grain, subrounded, dark gray shale fragments, micaceous, slight salt and pepper, tight, parallel fractures (5 mm apart) with bleeding oil on surfaces from 7131.6 - 7132.2, bright gold fluorescence with quick bright yellow/green cut, ending with stylolite at 7132.2. Both vertical parallel fractures not continuous across core.

7132.2 - 7133.2 Sandstone, clear/medium gray/gray-brown, very fine/fine grain, subangular, calcareous cement, well consolidated, tight, hard, argillaceous, with good overall visible oil stain below stylolite, bright gold fluorescence and bright yellow-green cut. Dark red-brown oil bleeding from matrix, slight bubbling of gas leaving thick spots of oil with depressed gas bubbles. Heavy bleeding oil 7133-7134.

7133.2 - 7134 Sandstone, as above, with horizontal fracture @ 7133.2 with very heavy bleeding dark red-brown oil, good bubbling gas with oil bubbles.

7134 - 7135 Sandstone, very fine grain/silt, dolomitic/slightly calcareous, argillaceous with abundant minute white clay clasts, very tight with slight bleeding oil on multiple vertical fractures @ 7134.4. Horizontal fracture @ 7134.0 with slight bleeding oil on vertical slightly bubbling.

7135 - 7136 Sandstone, clear/medium brown, very fine grain, occasionally fine/medium grain, dolomitic (acid may be inhibited by oil contamination on specimen), well consolidated, poor/fair intergranular porosity, even overall yellow fluorescence with quick diffused bright yellow-green cut followed by slow streaming bright yellow-white cut.

7136 - 7137 Shale, dark gray-brown, dolomitic, with scattered black carbonaceous fossil plant debris. Vertical fracture ends at 7137 with two closed fractures intersecting at approximately 120° to each other.

7137 - 7138 Sandstone, light gray, very fine/medium grain, dolomitic/slightly calcareous in part, very argillaceous with white and dark gray shale clasts scattered throughout. Slightly pyritic with trace fossil plants with black carbonaceous material. Trace brown limestone clasts.

7138 - 7139.5 Sandstone, dirty white/light gray, fine grain/medium grain, slightly calcareous, some siliceous cement, abundant grains broken across grain, well cemented. Scattered dark gray shale and white clay clasts, some limestone fragments.

7139.5 - 7141 Shale, dark brown/gray-brown, slightly calcareous, very finely disseminated mica, with very fine banding with black carbonaceous material in very thin horizontal veins.

7141 - 7142 Shale, dark gray-brown, firm, hard, smooth texture, blocky/subplaty calcareous with very fine interbeds of sandstone, tan/brown, very fine grain, well cemented, very finely pyritic.

7142 - 7143 Shale, dark gray-brown, very slightly calcareous, very smooth texture, very slightly micaceous with very dull, faint, gold fluorescence, no cut.

7143 - 7144 Shale, dark gray, brown, slightly calcareous, very sandy with very fine/medium grain sand grains, subangular/angular, occasional coarse grain, some siliceous cement, trace scattered very small light green clay clasts, very tight, hard.

CORE LAB SPECTRAL GAMMA-RAY PLOT

CORRELATION WITH #3-1A2 DUNCAN

Pennzoil Co.

No. 4-2-A2

Bluebell/Altamont Field

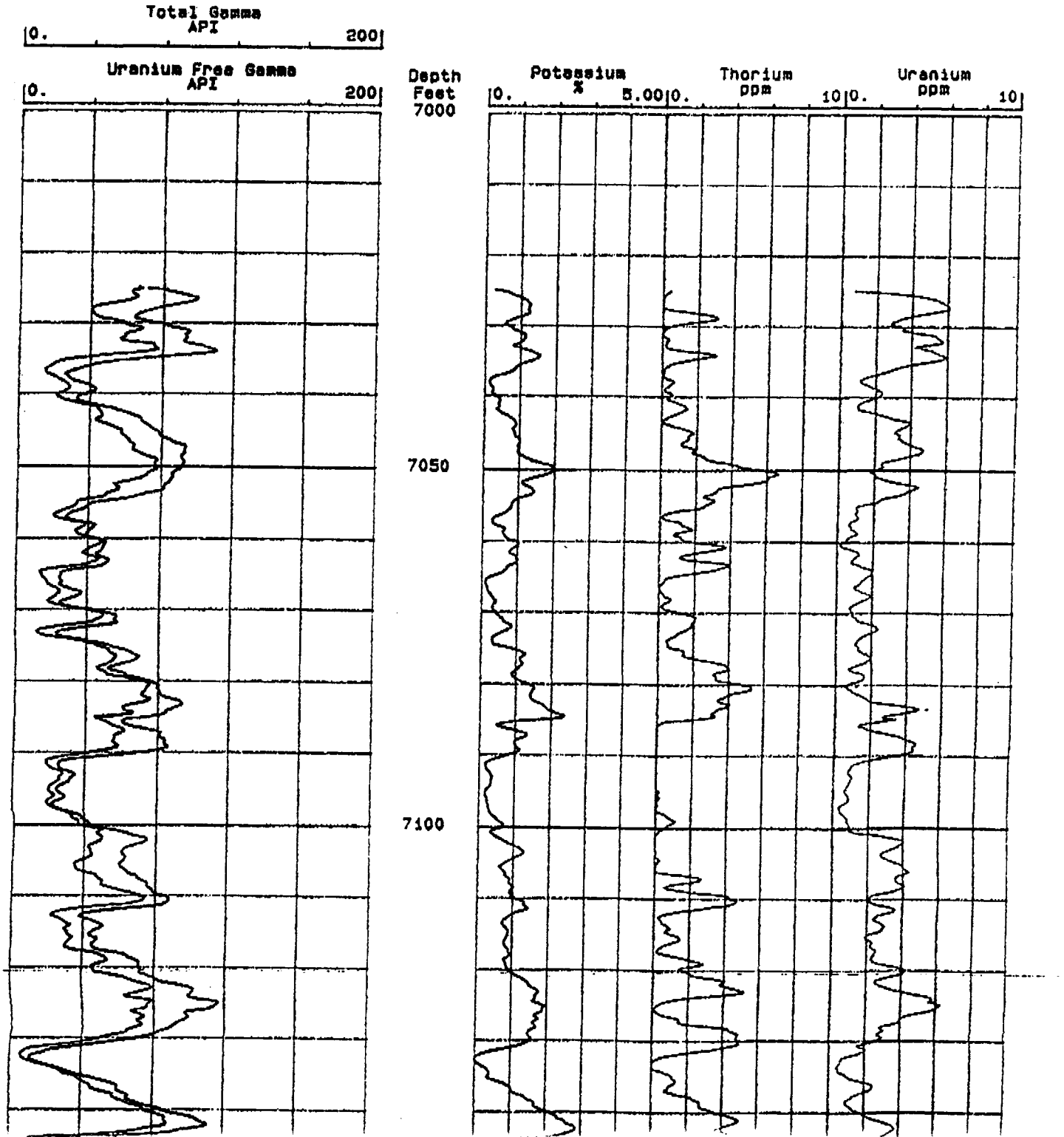
Duchesne County, Utah

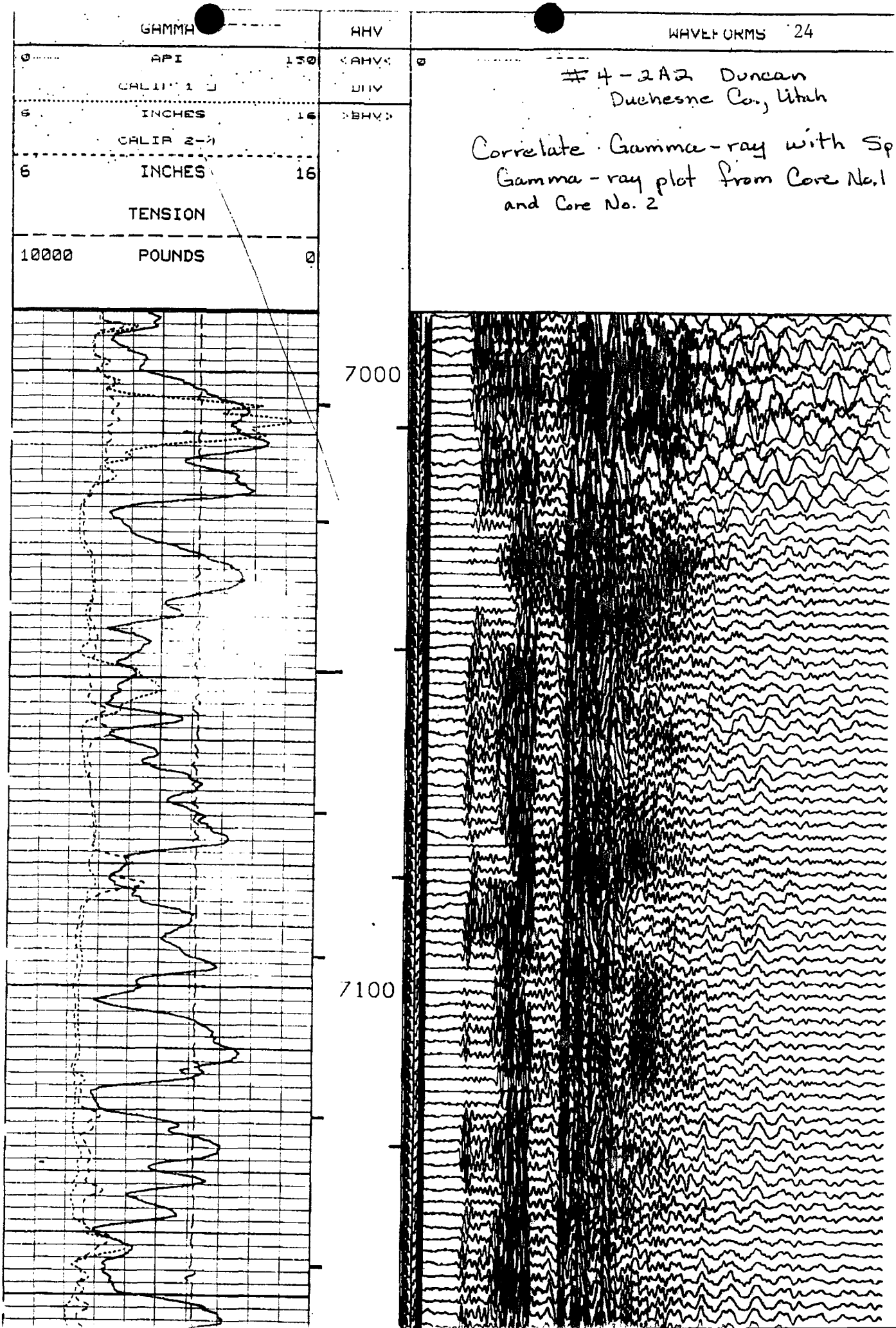
Green River Formation

Core Nos. 1 & 2 (7025.0-7144.0)

Core Laboratories 19-Aug-1991

Vertical Sc
5.00 in = 1(
= 100'





#4-2A2 Duncan
Duchesne Co., Utah

Correlate Gamma-ray with Sp
Gamma-ray plot from Core No. 1
and Core No. 2

SAMPLE DESCRIPTIONS

Pennzoil Exploration and Production Company
#4-2A2 Duncan
Duchesne County, Utah

6300 - 6314 Shale, white (20%) soft, soapy, slightly bentonitic, finely disseminated mica, pink/light red (30%), some slightly dolomitic, very light green (10%) light gray (10%), some slightly dolomitic, medium yellow/gold-yellow (30%), dolomitic, some olive drab. Thin streak dolomite, light brown, microsucrosic, occasional black mica fragments.

6314 - 6344 Shale, medium yellow/yellow-gold (30%), slightly dolomitic, sub blocky, some very slightly silty, some varicolored gold/green pink/light red/medium red, dolomitic (20%), very light green (10%) light gray (30%), white (10%), mica.

6344 - 6352 Siltstone, dirty white/light gray, soft, friable with few very fine grains, subangular/subrounded, no show, some loose very fine grains.

6352 - 6400 Shale, light gray (20%), dolomite, slightly arenaceous in part, medium gray/gray-brown (10%), light red/medium red-brown (30%), dolomite, slightly calcareous, light green/greenish-gray (10%), medium gold/yellow-gold (30%), thin streak dolomite, light brown, medium sucrosic, slightly argillaceous in part, some with black coal or carbonaceous material, no visual porosity, no show.

6400 - 6414 Shale, medium brown (30%), calcareous, silty in part, yellow brown (20%), some arenaceous, light gray (20%), dolomite, slightly calcareous, pink/light-medium red-brown (10%), light green/greenish-gray (20%).

6414 - 6420 Sandstone, clear/dirty white, very fine grained, subrounded, predominantly unconsolidated, grading to siltstone, white, very soft, occasional fragments consolidated, slightly calcareous, friable.

6420 - 6444 Shale, light gray (20%), slightly calcareous, pink/light red (30%), light green/green-gray (10%), white (20%), earthy/sub waxy, yellow-brown (20%), calcareous with thin streaks sandstone, clear/white, very fine grained, sub angular/sub rounded, predominantly unconsolidated.

6444 - 6458 Shale, white (50%), waxy, some very slightly micaceous, occasional pieces slightly arenaceous, pink to light/medium red, some arenaceous (20%), yellow-brown (20%), silty, light green (10%).

6458 - 6494 Shale, pink/light red (10%), slightly dolomitic, sub platy, light gray (20%), sub waxy, slightly micaceous, calcareous, white/dirty white (50%), yellow (10%), brown/golden-brown (10%), silty/slightly arenaceous in part, trace light green/greenish gray.

6494 - 6522 Shale, white/dirty white (40%), sub waxy, pink/light red/medium red-brown (20%), calcareous, brown/golden-brown (20%), some

arenaceous, yellow (10%), light/medium gray (10%), calcareous, sub platy, trace very fine carbonaceous fragments with thin interbedded sandstone, clear, very fine grained, subangular, unconsolidated, occasional loose fine grain sand grains, frosted, subrounded.

6522 - 6540 Shale, white/light gray (40%), sub waxy, pink/light red (10%) calcareous, brown/gold-brown (20%), light/medium gray (30%).

6540 - 6568 Shale, white/dirty white (30%), sub waxy, pink/light red (30%), light/medium gray (20%), some arenaceous with fine sand grains, subangular, light/medium brown (10%), yellow (10%) with thin streaks sandstone, clear, very fine grain, subangular, predominantly unconsolidated.

6568 - 6610 Shale, light/medium red (30%), clayey, light gray (20%), medium brown/gold-brown (20%), white (10%), yellow (20%), silty in part with thin streaks sandstone, clear/white, very fine/fine grain, calcareous, trace consolidated fragments, predominantly unconsolidated.

6610 - 6638 Shale, light/medium gray (30%), slightly calcareous, sub blocky, some slightly arenaceous, light/medium red/brown-red (20%), yellow/yellow-brown (30%), some silty, medium brown (10%), white (10%), trace light green/green-gray. Thin streaks siltstone, light brown, friable, graduates to very fine grain sandstone, clear/white.

6638 - 6646 Shale, pink/light red (30%), slightly calcareous, white/dirty white (20%), light gray (20%), calcareous, light green/green-gray (10%), yellow/yellow-brown (10%), silty, medium brown (10%).

6646 - 6680 Shale, light gray (30%), dolomitic/slightly calcareous, pink/light red (30%), white (10%), sub waxy/earthy, yellow/yellow-brown (20%), some slightly silty/slightly arenaceous, medium brown (10%), trace green.

6680 - 6698 Shale, light gray (30%), pink/light red (10%), yellow/yellow-brown (20%), white (10%), light green/green-gray (10%), medium brown (20%).

6698 - 6704 Shale, light/medium gray (40%), pink/light red (20%), yellow/yellow-brown (10%), light green/green-gray (10%), medium brown (10%), white (10%) with streak sandstone, clear, very fine grain, subangular, unconsolidated.

TOP GREEN RIVER 6704

6704 - 6744 Shale, light/medium gray (40%), slightly calcareous, soft, clayey, pink/light red (20%), light green/green-gray (10%), slightly calcareous, very soft, yellow/yellow-brown (10%), medium brown/gold-brown (10%), white (10%), with very thin interbedded sandstone, clear, very fine grain, unconsolidated with occasional consolidated fragments very fine grained sandstone, white, calcareous, friable, probable source of loose grains.

6744 - 6762 Sandstone, clear/white, very fine grained, subangular/angular, predominantly unconsolidated with occasional loose medium grain, translucent, subangular with streak of shale as above @ 6752-6756.

6762 - 6796 Shale, light/medium gray (30%), light red (20%), medium brown/gold-brown (20%), white (20%), yellow/yellow-brown (10%), with thin streaks sandstone, clear/white/light brown, very fine grained, calcareous, friable, predominantly unconsolidated, abundant biotite mica fragments.

6796 - 6836 Shale, white (40%), sub waxy/earthy, light gray (20%), calcareous, soft clayey, light green/gray-green (10%), pink/light red (20%), clayey, yellow (10%), silty in part, some slightly arenaceous, trace medium brown/gold-brown, with thin streaks sandstone, clear/white, very fine/fine grain, calcareous, moderately well cemented with abundant biotite mica fragments.

6836 - 6856 Sandstone, clear/translucent, very fine grain/silt size, subangular, unconsolidated, occasional loose fine/medium grain, subangular, subrounded, clear/frosted, with some becoming argillaceous.

6856 - 6876 Shale, light gray (40%), calcareous, light green/gray-green (20%), sub waxy, yellow/yellow-gold (20%), silty to slightly arenaceous in part, pink-light/medium red (20%), trace medium brown/gold-brown with interbedded sandstone, clear/translucent/slightly frosted, very fine grain, subangular/angular with occasional fine/medium grain subround, unconsolidated.

6876 - 6888 Sandstone, clear/white, very fine grain, subangular, predominantly unconsolidated, occasional consolidated with calcareous cement, friable with poor visible porosity, argillaceous and calcite filled, no show, grading to siltstone, dirty white/light gray-brown, very soft.

TOP GR/Tg2 6888

6888 - 6896 Shale, light gray (30%), calcareous, clayey, some slightly micaceous, light green/gray-green (20%), sub waxy, white (10%), yellow/gold-yellow (20%), arenaceous in part, pink-light/medium red (20%).

6896 - 6902 Sandstone, clear/translucent/light red, very fine grained, subangular, sub rounded, grading to silt size grain, unconsolidated, well sorted, occasional loose fine sand grain, subrounded, no show.

6902 - 6916 Shale, light/medium gray (40%), light gray/gray-green (10%), pink-light red (10%), yellow/gold-yellow (20%), silty to slightly arenaceous, white (10%), medium brown/gold brown (10%) with interbedded sandstone, clear/white/translucent, very fine grain, subangular, unconsolidated with trace siltstone, dirty white/light brown, very soft, no show.

6916 - 6926 Sandstone, clear/white/light red, very fine grain, subangular, unconsolidated, occasional loose fine grain, subangular/subrounded, no show, grading to siltstone, dirty white/light brown, very soft, occasional consolidated piece, calcareous.

6926 - 6950 Shale, light/medium gray (40%), light green/gray-green (10%), trace dark gray, pink-light/medium red (20%), yellow/gold-yellow (20%) medium brown/golden-brown (10%), trace white with thin streaks sandstone, clear/white, very fine grain/silt, subangular/angular, unconsolidated.

6950 - 6958 Sandstone, clear/white, very fine grain/silt, subangular/angular, unconsolidated, trace siltstone, dirty white/light brown, consolidated, very soft, slightly calcareous, no visible show.

6958 - 6964 Shale, light/medium gray (50%) very calcareous, light green/gray-green (10%), some slightly arenaceous, yellow/gold-yellow (10%), silty/ slightly arenaceous in part, medium brown (10%), pink-light/medium red (20%), trace white.

6964 - 6978 Sandstone, clear/translucent/white, very fine/fine grain, subangular/ angular, unconsolidated, probable poor/fair intergranular porosity due to rate of penetration, no visible show. Occasional loose medium sized grain, clear/frosted, subangular/subrounded.

6978 - 7012 Shale, pink-light/medium red (30%), clayey/slightly arenaceous in part, light gray (30%), calcareous, light green/gray-green (10%), yellow/gold-yellow (10%), clightly arenaceous, medium brown/gold-brown (10%), white (10%) with thin interbedded sandstone, clear/ white, very fine grained, subangular/angular, unconsolidated, trace silt size grain with occasional loose fine/medium size sand grain subangular, subrounded.

7012 - 7025 Shale, light/medium gray (40%), calcareous, clayey, yellow/gold-yellow (20%), silty/slightly arenaceous, pink-light/medium red (20%), light green/green-gray (10%), white (10%), subwaxy, very soft, traces of dark gray and medium brown shales. Very poor samples, abundant cavings.

Core No. 1 7025 - 7085 rec: 60'

Core No. 2 7085 - 7144 rec: 59'

See core descriptions on pages 11 to 14 and pp. 18 to 22

7144 - 7158 Sandstone, clear/white/light brown, fine grained, subangular, sub rounded, well cemented, calcareous, some argillaceous, with dark gray shale fragments, slightly micaceous with occasional medium sized sand grains imbedded, none to poor intergranular porosity due to argillaceous or calcite fill, with dull golden fluorescence, quick strong bright yellow cut of very short duration trailing off in intensity to leave a pale residue. Some light brown sandstone with better cut, but short duration. Interbedded shale, light/medium gray (40%), light green/gray green (20%), light/medium red (10%), yellow/yellow-gold (10%), medium brown/golden brown (20%).

7158 - 7174 Shale, light gray (40%), slightly calcareous/dolomitic, light green/ gray green (10%), yellow/yellow-gold (10%), medium brown/gold-brown (30%), pink, dolomitic to light/medium red (10%) some arenaceous with thin streaks sandstone, clear/white, very fine/fine grain, calcareous, well cemented, none to poor intergranular porosity slight trace of show in sand, probably from zone above.

7174 - 7196 Sandstone, clear/dirty white/light gray/light brown, very fine grain, calcareous, subangular, well cemented, some siliceous cement, scattered dark gray shale fragments, slightly pyritic in part with none to poor intergranular porosity, trace light brown sandstone with dull gold fluorescence with very slow strong bright yellow cut. Shale light/medium gray (40%), medium brown/golden-brown (30%), yellow/gold (20%), arenaceous in part, light/medium red (10%).

7196 - 7202 Sandstone, clear/white/dirty white, very fine/fine grain, calcareous, well cemented, subangular/sub rounded, none to poor intergranular porosity due to argillaceous material. Some sandstone, clear/white subangular/angular, siliceous cement with fracturing across grains no visual porosity or show. Shale, light/medium gray (40%), medium brown (30%), very silty in part to arenaceous, slightly calcareous yellow/gold (20%), arenaceous in part, light/medium red (10%), medium gray shale becoming darker in color, to dark gray shale.

7202 - 7214 Sandstone clear/white, fine grain, subangular/angular, well cemented, some siliceous cement, quartzitic in part, slightly pyritic, none to very poor porosity, no visible show, sandstone, dirty white/light gray, very fine grain, moderate consolidation, argillaceous, with occasional fine/medium grain, slightly calcareous, no show, with thin shale streaks, light/medium gray (30%), yellow/gold (20%), silty/arenaceous, medium red (20%), light green/gray-green (10%) and medium brown (20%), some arenaceous in part.

7214 - 7234 Shale, light/medium gray (40%), calcareous, some with medium grain imbedded, yellow/gold-yellow (20%), light/medium red (20%), clayey/silty, calcareous, medium brown/golden-brown (20%), arenaceous with thin streaks sandstone white/dirty white, very fine/fine grain, subangular, well consolidated, calcareous cement, trace fair porosity, with pale yellow fluorescence and occasional very slow soaking or diffused pale yellow cut.

7234 - 7238 Sandstone, white, very fine/fine grain, subangular, moderately well cemented, calcareous, none to poor intergranular porosity, clay or calcite filled, no show, some light brown, fine grain, calcareous, poor/fair porosity, friable, with pale yellow fluorescence and very weak slightly diffused cut.

7238 - 7278 Shale, light/medium gray (40%), calcareous, some slightly silty, yellow/gold-yellow (20%), silty/slightly arenaceous, medium brown/golden-brown (30%), some slightly arenaceous, light/medium red (10%) with interbedded sandstone white/dirty white, very fine/fine grain, subangular/angular, calcareous, moderately cemented, abundant loose sand grain, none to poor visible intergranular porosity, no show, trace sandstone light gray/gray-brown, argillaceous, grading to siltstone, trace light brown, with very pale gold fluorescence and very slow, diffused pale yellow cut.

TOP GR/Z 7278

7278 - 7298 Shale light/medium gray (30%), calcareous, some slightly arenaceous, yellow/yellow-gold (20%), light/medium red (10%), medium brown/gold-brown (30%), arenaceous in part, light green/gray-green (10%) with

streak of sandstone, white/dirty white, very fine/fine grain, sub-angular/sub rounded, poor intergranular porosity, very dull gold fluorescence with occasional very slow streaming pale yellow cut, sandstone grading to siltstone, light gray, argillaceous, slightly calcareous, trace dolomite, medium/dark brown, cryptocrystalline, dense. Few specks of dark red-brown free oil in sample 7280-7290.

7298 - 7308 Siltstone, light/medium gray/gray-brown, calcareous, moderately well consolidated, argillaceous in part, very finely disseminated black material, grading to very fine grain,sandstone, light gray/dirty white, calcareous, subangular/angular, well consolidated, trace sandstone with siliceous cement, very hard, trace very small globules (1mm) of dark red-brown free oil with no fluorescence, quick bright yellow strong cut, short duration.

7308 - 7326 Shale, light/medium gray (40%), calcareous, slightly silty, light green (10%), light/medium red (20%), medium brown (10%), yellow (20%), arenaceous with very finely interbedded siltstone, light/ medium gray/gray-brown, calcareous, soft, no show.

7326 - 7336 Sandstone, clear/white, very fine/fine grain, subangular, calcareous, moderately well consolidated, abundant loose sand grains, poor visible intergranular porosity with trace sandstone, light/medium brown, fine grain, subangular, poor visible porosity, some with spotty dull gold fluorescence, with quick streaming bright yellow cut. Trace of dark brown/black tarry oil, no fluorescence, quick streaming very bright yellow cut.

7336 - 7354 Shale, dark gray (30%), some black carbonaceous material in micro-laminations, splintery in part, some silty, medium brown (20%), yellow/medium gold-yellow (20%), arenaceous in part, light/medium red (20%), light gray (10%) with thin interbeds of sandstone, clear/dirty white/light gray, very fine/fine grain, calcareous, moderately well cemented, no visible intergranular porosity, no show, trace sandstone, light brown, very fine/fine grain, calcareous, poor visible intergranular porosity, no fluorescence, no show, scattered specks of free dark red-brown/black gummy oil on sample with quick streaming bright yellow cut, diffusing quickly after quick streaming cut of short duration.

7354 - 7360 Sandstone clear/light brown, very fine grain, subangular/sub rounded, moderately well consolidated, good visible oil stain, fair intergranular porosity, dull gold fluorescence, good fast streaming bright yellow-white cut.

7360 - 7388 Shale, light/medium gray (30%), some slightly silty, yellow/medium golden-yellow (30%), silty to arenaceous, light/medium brown/gray-brown (40%), silty in part with thin interbedded siltstone, medium gray/gray-brown, with very fine black carbonaceous fragments, soft grading to very fine grain, sandstone clear/light brown, calcareous, some slightly argillaceous.

7388 - 7394 Sandstone, dirty white/light gray/light brown, very fine/fine grain, subangular/angular, moderately well consolidated, calcareous, no fluorescence, with very weak pale yellow cut from piece of brown sandstone. Shale, as above, but becomes very silty and arenaceous.

7394 - 7408 Shale, light gray (20%), light green (10%), yellow/yellow-gold (30%) silty in part, light/medium brown (30%), light red (10%) with thin streaks siltstone, light brown, slightly argillaceous in part, very slightly calcareous, grading to very fine grain sandstone.

7408 - 7454 Shale, light/medium gray (30%), light green/gray-green (10%), yellow/yellow-gold (20%), medium brown (10%), calcareous, light/medium red (30%) with thin streaks siltstone, light gray/gray-brown, argillaceous, slightly calcareous.

7454 - 7470 Shale, light gray (30%), yellow/yellow-gold (20%) silty, light/medium red (20%), medium brown (30%) with very thin interbedded siltstone, light brown-gray-brown, silty grading to very fine grain sandstone.

7470 - 7480 No sample - after trip.

7480 - 7498 Shale, light gray (30%), yellow/yellow-gold (40%) silty, slightly dolomitic, medium brown (20%), light red (10%) with thin interbedded siltstone, light gray, argillaceous, soft.

7498 - 7534 Shale, light gray (30%), calcareous, light green/gray-green (10%), yellow/yellow-gold (20%), light/medium red (20%), light/medium brown (20%) with thin interbedded siltstone light gray/light brown, argillaceous.

7534 - 7576 Shale light gray (20%), light green/gray-green (20%), yellow/yellow-gold (30%), light/medium brown (30%), sandstone clear/light brown/light red, very fine grain, calcareous grading to siltstone, medium brown, slightly dolomitic, firm, trace dolomite light/medium brown/gray-brown, cryptocrystalline, dense.

7576 - 7630 Shale, yellow/yellowish-gold (30%) very silty, very slightly calcareous, light green/gray-green (10%), calcareous, silty, light gray (20%), light/medium red (10%), very calcareous, clayey, light/medium brown (30%), slightly calcareous with very thin streaks siltstone, light gray-brown, very soft to light gray, calcareous, argillaceous in part.

7630 - 7638 Shale light gray (20%), calcareous, light green/gray-green (10%) yellow/gold (30%) arenaceous, some very silty, light/medium brown (40%) very calcareous, blocky, with thin streak sandstone, light brown/yellow, fine/medium grain, subangular with siltstone light brown/gray-brown, very soft, very calcareous.

7638 - 7650 Shale, as above, very silty, trace sandstone, clear/light to medium brown, very fine grain silt, calcareous, well consolidated, very firm, brittle, no visible porosity or show.

7650 - 7672 Shale, light/medium gray (20%), calcareous, some slightly silty, light green/gray-green (10%), slightly arenaceous, yellow/gold (20%), very silty/arenaceous, light/medium red (10%), light/dark brown (40%), silty with streaks siltstone, light/medium brown/gray brown, calcareous, very soft grading to very fine grain sandstone clear/light brown, siliceous cement in part, hard, brittle with trace siltstone, tan, very soft. Trace loose medium/coarse sand grains, light red-brown, sub rounded/rounded. Trace dark gray shale.

7672 - 7680 Sandstone, light/medium brown, very fine grain, angular, moderately well cemented, some with poor intergranular porosity, slightly friable, no visible show. Trace siltstone, medium brown, grades to very fine grain sandstone, siliceous cement, hard, brittle.

7680 - 7700 Shale, yellow/gold (30%), silty, very arenaceous, calcareous, blocky, light/medium red (10%) clayey, light/medium gray (10%) calcareous, some arenaceous, medium/dark brown/gray-brown (40%) very calcareous, silty, trace dark gray shale, with very thin streaks siltstone, tan/light brown and sandstone.

7700 - 7714 Sandstone, clear/dirty white/light brown, very fine/fine grain, calcareous, subangular/angular, friable, trace poor/fair intergranular porosity, no visible show, grading to siltstone, medium gray, argillaceous, some with finely disseminated carbonaceous specks.

7714 - 7744 Shale, light/medium brown/gray-brown (30%) calcareous, very silty in part, yellow/gold (30%) silty, light gray (10%), light green/gray-green (20%) sub waxy/slightly silty, light/medium red (10%) clayey, some varicolored with gray and yellow thin streaks siltstone, tan, very soft/light gray, argillaceous, calcareous.

7744 - 7762 Shale, medium brown (60%), very calcareous, argillaceous, slightly silty, medium yellow/gold (30%) silty to slightly arenaceous, light gray-brown calcareous, moderately firm, argillaceous in part, slight trace black carbonaceous material in sample giving a slow streaming bright yellow cut, trace dark red-brown free oil in sample with very dull gold fluorescence, quick streaming bright yellow-white cut, short duration.

7762 - 7766 Sandstone, dirty white/light gray, very fine/fine grain, calcareous, subangular, poor consolidation, trace poor/fair intergranular porosity, some with pale yellow fluorescence and quick streaming bright yellow cut, grading to siltstone, medium gray, soft to medium brown, some with good bright yellow streaming cut.

7766 - 7780 Shale, light gray (20%) calcareous, yellow/gold (30%) clayey to very silty, light/medium red (10%) clayey, medium/dark brown/ gray-brown (40%) very calcareous, silty in part with thin streaks siltstone, light/medium gray, argillaceous, calcareous, with trace of pale yellow diffused cut.

7780 - 7812 Shale, yellow/gold (40%) silty, light/medium gray (30%) calcareous, sub blocky, medium brown/gray-brown (30%), slightly silty, trace light/medium red with thin streaks sandstone, clear/dirty white, fine grain, calcareous, slightly friable, to light gray, very fine grain/silty, calcareous, some argillaceous, no fluorescence, trace slow pale yellow diffused cut from occasional pieces.

7812 - 7840 Shale, yellow/gold (30%), sub blocky, some silty, light/medium gray (30%), calcareous, medium brown/gray-brown (30%), calcareous, silty in part, light/medium-red (10%), trace dark gray/black shale with thin interbedded sandstone, clear/white, fine grain, subangular/angular, calcareous to dirty white/light gray/gray-brown, very fine grain, subangular, some argillaceous, none to poor intergranular porosity, no show. Slight trace clear/light brown sandstone, very fine grain, subrounded, calcareous, moderately consolidated, no visible intergranular porosity, with dull gold fluorescence and quick diffused bright yellow cut.

7840 - 7850 Shale, as above, with thin streaks siltstone white/dirty white, calcareous, very soft, some slightly argillaceous.

7850 - 7858 Shale, medium gray (30%), calcareous, yellow/gold (30%), light green/gray-green (10%), sub waxy/slightly silty, calcareous, light/medium red (10%), clayey, slightly silty, medium/dark brown to gray-brown (20%), calcareous, firm with thin streaks siltstone, light gray, soft, slightly argillaceous to light brown, no visible show.

7858 - 7880 Shale, light/medium gray (30%), calcareous, yellow/gold (30%), very silty in part, light green (10%), slightly silty, light/medium red (10%), clayey, medium brown/gray-brown (20%), calcareous, sub blocky with thin streaks siltstone, light gray, slightly argillaceous to light/medium brown, no visible show.

7880 - 7884 Sandstone, clear/white/dirty white, very fine grain, subangular, moderately consolidated, none to poor visible porosity, no fluorescence, no show, trace siltstone, light brown, soft, with some very fine sized grains, pale yellow fluorescence and slow soaking pale yellow cut.

7884 - 7896 Shale, light/medium gray (30%), calcareous, yellow/gold (30%), silty/arenaceous, very calcareous, light/medium brown/gray-brown (20%), very calcareous, very silty in part, light/medium red/red-brown (10%), clayey/silty, light green/gray-green (10%) with thin streaks sandstone, clear/light brown, very fine grain, poor consolidation, trace with black stain with very dull gold fluorescence and quick streaming bright yellow cut of short duration leaving a pale yellow residue.

7896 - 7910 Shale, light/medium gray (30%), calcareous, silty, light green/gray-green (10%), light/medium red (20%), clayey, soft/silty in part, yellow/gold (10%), silty, light/medium brown/gray-brown, some arenaceous with thin interbedded sandstone, clear/white/light brown, very fine grain/silty, subangular, poor consolidation, no visibly intergranular porosity or show.

TOP TRONA I 7910

7910 - 7916 Shale, light/medium gray (30%), calcareous, silty, light green (10%), light/medium brown (40%), very calcareous, very silty, yellow/yellow-brown, light/medium red, trace sandstone clear/white very fine/fine grain, subangular, moderately friable, poor visible intergranular porosity.

7916 - 7938 Shale, light/medium gray (40%), calcareous, some arenaceous, light green/gray-green (20%), light/medium red (10%), clayey, medium yellow/gold (20%), light/medium brown/gray-brown (10%), with thin streak sandstone clear/red/brown very fine/fine grain, subangular/sub round, with occasional loose coarse grains, frosted subangular/well rounded, grading to siltstone, light gray, soft, disseminated carbonaceous material.

7938 - 7944 Siltstone, white/light gray, calcareous, very soft, grading to very fine grain sandstone which is better consolidated, subround grains, clean sand, no show, trace sandstone, light brown, very fine grain, fair consolidation, with very dull or no fluorescence and very weak soaking pale yellow cut.

7944 - 7959 Shale, light/medium gray (20%), yellow/gold-yellow (40%), light/medium red (10%), light/medium grown to gray-brown (30%), trace light green/gray-green, trace siltstone, light gray and abundant loose "grit" which may be breaking out of shales as the shales have become very silty.

7959 - 7961 Predominantly shale, as above, with trace sandstone white/light brown, very fine/fine grain, subangular, sub round, moderately well consolidated, slightly argillaceous in part, calcareous, poor visible intergranular porosity, dull yellow or gold fluorescence, very slow, very pale yellow-green cut, +64 unit gas increase.

7961 - 7982 Shale, light/medium gray (20%), yellow/yellow-brown (20%), light/medium red to orange-red (20%), some bright orange, light/medium brown/gray-brown/red-brown (40%)

7982 - 7986 Shale, as above, becoming more silty.

7986 - 8025 Shale, light/medium gray (20%), calcareous, light green/gray-green (tr), slightly silty, yellow/gold (30%), clayey/silty, light/medium gray-brown (30%), light/medium red, some orange-red (20%) with thin interbedded siltstone, light gray/medium brown, argillaceous in part, very soft with trace sandstone, dirty white/light brown, very fine grain, moderately well consolidated, occasional loose coarse grain, no show, fluorescence, or oil cut.

8025 - 8042 Sandstone (< 20% of sample) dirty white/medium brown, very fine grain/silt size, slightly calcareous, moderately well consolidated, none to poor intergranular porosity, none to very dull gold fluorescence with very pale yellow slow cut, trace sandstone, dark brown, very fine grain/silty, with some spotty oil stain and possibly dark brown color due to oil stain with dull yellow, occasional moderate yellow fluorescence with quick bright yellow-green streaming cut of short duration +137 gas unit increase at 8025'. Shale, light/medium gray (30%), light green (10%), some arenaceous, trace light/medium red, light/medium brown (60%), very silty, arenaceous in part.

8042 - 8052 Shale, light/medium gray (20%), calcareous, light green (10%), yellow/gold (30%), very silty, light/medium red to red-brown (10%), light/medium brown (30%).

8052 - 8056 Sandstone, clear/medium brown, very fine grain, subangular/ sub rounded, well consolidated, trace of fair intergranular porosity in clear sandstone, with visible spotty oil stain, pale yellow fluorescence and quick strong bright yellow-white cut, 1 piece light green shale with calcite cryptocrystalline on one edge with good yellow fluorescence and pale yellow weak cut, possible fracture lining.

8056 - 8082 Shale, light/medium gray (20%), calcareous, medium yellow/gold (30%), very silty, to arenaceous, light/medium red to red-brown (10%), light/medium brwon, gray-brown (40%), very calcareous, silty in part with thin interbedded sandstone, dirty white/ light brown, very fine grain, calcareous, moderately well consolidated grading to siltstone, light gray with scattered dull gold fluorescence and quick bright yellow cut. Some good cut from brown shale and some visible spotty oil droplets on shale surfaces may be contamination by free oil in sample.

8082 - 8108 Shale, light/medium gray (40%), light green/gray-green (10%), light/medium red to rose-red, (10%), yellow/gold (10%), light/ medium brown gray-brown (30%), very silty/arenaceous (argillaceous sandstone) with thin interbedded sandstone, light brown/gray, very fine grain, calcareous and siltstone, tan/light brown, very soft.

8108 - 8126 Shale, light/medium brown to gray-brown (30%), slightly silty, light/medium gray (20%), calcareous, blocky, light green/gray-green (10%), yellow/gold (30%), silty/slightly arenaceous, light/medium red to red-brown (10%), clayey/silty, with streaks siltstone, light brown, very soft, slight increase dark red-brown free oil in sample with pale yellow fluorescence and quick diffused bright yellow-white cut.

8126 - 8128 Sandstone, medium brown, very fine grain, moderately consolidated, some slightly argillaceous, poor visible intergranular porosity, trace dark brown with probable oil stain, pale yellow fluorescence with slow streaming bright yellow-green cut of short duration leaving a faint or pale yellow residue. Sample highly contaminated by dark red-brown free oil in mud.

8128 - 8148 Shale, as above, with thin interbedded siltstone, tan/light brown, very soft. Shale becoming more silty over all.

8148 - 8164 Shale, light/medium gray (20%), slightly calcareous, sub blocky, light green/gray-green (10%), yellow/gold (20%), very calcareous, very silty, light/medium red to red-brown (10%), light/medium brown to gray-brown (40%), calcareous, silty, some arenaceous with interbedded sandstone, clear/white/light brown/trace yellow, very fine/fine grain, subangular, poor consolidation, no visible intergranular porosity, no show, grading to siltstone, light gray, calcareous, soft.

8164 - 8190 Shale, as above, yellow/gold (30%), light/medium gray (20%), light green (10%), trace light/medium red, light/medium brown (40%), with interbedded sandstone, clear/light red to orange-red, very fine grain, calcareous, well consolidated. No show, fluorescence, or oil cut.

8190 - 8194 Sandstone, dirty white/light brown, very fine grain/silty, calcareous, very soft, no fluorescence, but very weak pale yellow cut.

8194 - 8252 Shale, light/medium gray (20%), slightly calcareous, sub blocky, some slightly silty, light/dark brown, gray-brown (50%), silty/ slightly arenaceous, very calcareous, light green/gray-green (10%), sub waxy, slightly arenaceous in part, very calcareous, medium yellow/gold/brown-yellow (20%) clayey/slightly arenaceous, very calcareous, trace light/medium red to red-brown, clayey, sub platy, calcareous with thinly interbedded siltstone, medium gray-brown, very soft, calcareous, grading to sandstone, clear/light-brown, very fine grain, subangular, occasional loose fine/medium grain, some frosted, well rounded.

8252 - 8266 Sandstone, light brown, very fine grain/silty, moderately well consolidated, some with dull yellow fluorescence, slow streaming bright yellow cut.

TOP GR/C3 8266

8266 - 8290 Shale, light gray (20%), calcareous, light green (10%), some slightly arenaceous, light/medium red to red-brown (10%), clayey, yellow/gold (30%), light/dark brown (40%), very calcareous, platy, some dark brown shale with spotty dark red brown oil stain, no fluorescence, no cut, but gives a pale yellow cut when crushed. Thin streaks sandstone, clear/white, very fine/fine grain, subangular, moderately well consolidated, poor visible porosity, no show.

8290 - 8320 Shale, as above, with thin streaks siltstone, tan-light brown, calcareous, soft, no fluorescence, very slow soaking pale yellow cut, trace of slow streaming cut, grading to very fine grain sandstone, light brown, subangular with dull yellow-green fluorescence with slow streaming pale yellow cut.

8320 - 8352 Shale, light/medium gray (20%), calcareous, sub blocky, yellow/ gold-brown (20%), silty/slightly arenaceous in part, light/medium red to red-brown (tr) light/dark brown (60%) very calcareous with streaks sandstone, dirty white/light brown, very fine/fine grain, calcareous, angular/subangular, fair consolidation, slightly pyritic, poor intergranular porosity, trace dark brown with faint yellow-green fluorescence with slow streaming pale yellow-green cut.

8352 - 8400 Shale, as above, with thin streaks siltstone, light/medium brown/ light red-brown, platy, argillaceous, slightly arenaceous in part, slightly calcareous, grading to sandstone, clear/white/light-medium brown, very fine/fine grain, subangular, trace fair intergranular porosity, some with pale yellow fluorescence, some with fair moderate yellow cut, trace with fast streaming yellow cut. Best sample show in 8380 - 8390 and 8390 - 8400 samples.

8400 - 8412 Shale, light/medium brown to light red-brown (60%), very calcareous, silty, light/medium gray (20%), calcareous, sub blocky, some slightly green-gray, slightly arenaceous, yellow gold-brown (10%) silty/arenaceous, light/medium red to reddish-brown (10%)

8412 - 8446 Shale, light/dark brown (50%), very calcareous, silty in part, light/medium gray (10%), yellow/yellow-brown (30%), silty/slightly arenaceous, light green/gray-green (10%) with very thin streak sandstone, clear, very fine grain, slightly calcareous, moderately well consolidated, poor/fair intergranular porosity, good brown oil stain, with dull gold fluorescence and quick streaming bright yellow-white cut.

8446 - 8452 Sandstone, clear/light brown, very fine/fine grain, subangular/angular, moderately well consolidated, calcareous, occasional disseminated pyrite, poor to trace of fair intergranular porosity with brown oil stain, bright gold fluorescence, quick diffused bright yellow-green cut followed by slow streaming.

8452 - 8472 Shale, medium/dark brown (70%), subwaxy, oil shale. No fluorescence, no cut, some with dull gold cut when crushed, yellowish-brown, very silty/arenaceous to medium reddish-brown, light green/gray-green (10%), light/medium red-maroon (10%), yellow/gold (10%) with streak sandstone at 8446-8448, clear/light brown, very fine/fine grain, occasional loose medium grain with dark brown oil stain, pale yellow fluorescence, bright yellow-green cut.

8472 - 8482 Sandstone, clear/brown, very fine/fine grain, subangular, occasional loose medium grain, some frosted, with pale yellow fluorescence, quick diffused bright yellow-green cut, followed by slow streaming cut with shale as above interbedded.

8482 - 8508 Shale, medium brown, very calcareous, slightly arenaceous/dark brown, oil shale, subwaxy or soapy (60%), light/medium gray (20%), slightly calcareous, light green/gray-green (10%), light/medium red/red-brown (10%) with streak sandstone @ 8502-8508, gray/maroon, mottled, very fine grain with few fine grain imbedded and dark brown sandstone as above, occasional spots of dark red-brown oil in sample.

TOP PARACHUTE CREEK 8508

8508 - 8538 Shale, medium/dark brown oil shale, soapy texture, to gray-brown, arenaceous, very calcareous (70%), light gray-green (10%), yellow/gold, slightly yellow-brown (20%), clayey to very silty with thin streaks sandstone, clear/light brown, very fine grain, calcareous with pale yellow fluorescence and slow diffused pale yellow-green cut, grading to siltstone, medium brown, soft with oil stain, no fluorescence.

8538 - 8556 Sandstone, dirty white, very fine/fine grain, subangular/sub round, well consolidated, poor visible intergranular porosity, no fluorescence, no show, with sandstone, medium/dakr brown with dull gold-yellow fluorescence and pale yellow slow cut with interbeds of shale, as above.

8556 - 8578 Shale, medium brown, silty/dark brown, oily texture on surface, some with black carbon inclusions, no fluorescence, no cut. Carbonaceous material gives bright faint yellow-green cut/medium gray-brown, slightly arenaceous (70%), light/medium gray (10%), yellow/yellow-brown (10%), silty, medium red/red-brown (10%) with thin interbedded sandstone, clear/dirty white, very fine/fine

grain subangular, occasional intergranular porosity, trace sandstone, with fair porosity, very pale yellow fluorescence with none to very faint yellow cut.

8578 - 8582 Sandstone, dirty white/light-medium brown, very fine/fine grain, angular, dirty white, argillaceous, calcareous, trace scattered pyrite, poor visible intergranular porosity, trace brown oil stain, faint yellow fluorescence, very slow streaming very pale yellow-green cut.

8582 - 8598 Shale, as above, with thin interbedded siltstone and medium/dark brown oil shale.

8598 - 8615 Shale, light/medium brown (80%), calcareous, some dark brown with soapy texture due to oil, some black carbon material in shale partings, some with dull gold/red-gold fluorescence and slight slow soaking cut, yellow/gold (20%) silty, occasional arenaceous in part with thin siltstone, gray/brown, very soft.

TOP GR/MAHOGANY BENCH 8615

8615 - 8622 Shale, light/medium brown, very calcareous, soft, slightly silty, brittle, trace brown shale, very thinly laminated with black carbonaceous material in laminations with slow faint yellow cut. Some shale becomes arenaceous, very soft. Scattered moderate yellow fluorescence, none to very slow faint yellow cut when crushed.

8622 - 8630 Shale, medium brown (100%), very calcareous, subplaty/platy, some slightly silty in part, thinly laminated with black carbonaceous material. Overall even dull yellow/or bright gold fluorescence, some slight cut from crushed specimans, from thin lamination of black carbonaceous shale.

8630 - 8640 Shale, medium brown, very calcareous, thinly laminated soft, some slightly silty in part, and dark brown shale, waxy, dull yellow or moderately bright gold fluorescence, slow soaking pale yellow cut with thin interbedded sandstone and siltstone.

8640 - 8650 Shale, as above, with increase dark brown, very carbonaceous, very calcareous, platy, subplaty.

8650 - 8684 Shale, medium/dark brown (80%), very calcareous, slightly silty in part, carbonaceous material in laminations with dull gold fluorescence, no cut, faint, pale yellow soaking cut, becoming better when crushed. Occasional lamination with richer carbonaceous material will give a bright yellow cut, light gray (10%) slightly calcareous, yellow/yellow-brown (10%) silty with thin streaks sandstone, white/light brown, very fine grain, silty.

8684 - 8694 Shale, light/dark brown (60%), yellow/yellow-brown (20%), light/medium gray (10%),pink/light red (10%).

8694 - 8704 Sandstone, white/light gray, very fine/fine grain, subangular, slightly salt and pepper, calcareous, poor visible intergranular porosity, some very argillaceous, no fluorescence, no cut. Trace white sandstone, very fine grain with visible brown oil

stain, bright yellow-green fluorescence with very slow streaming yellow-green cut, probably from uphole.

8704 - 8720 Shale, light/dark brown (50%), some silty laminations, carbonaceous laminae, yellow/yellow-brown/gold (20%), sub blocky, slightly silty/slightly arenaceous, light/medium gray (10%), light green/green-gray (10%), some slightly arenaceous, light/medium red to reddish-brown, lighter reds clayey, darker red-brown becomes silty.

TD 1915 hours 8-27-91
Driller depth: 8720
Halliburton Logging depth: 8708

DAILY MUD PROPERTIES

Date	Depth	Weight In/Out	V	PV	YP	Gel	WL	FC -/32	% Sol	% Oil	Chlorides ppm	Calcium ppm	pH	Mud Costs Cum.
8- 1-91	410	9/9	36			Water								0
8- 2-91	1504	8.4/8.4	26								600	400	11	386
8- 3-91	2194	8.4/8.4	26								300	100		911
8- 4-91	2719	8.4	26								300	600	11.5	1,196
8- 5-91	3324	8.3/8.3	26								200	80	9.0	1,549
8- 6-91	3500	8.4/8.4	26								2000	200	11	1,832
8- 7-91	3500					Run surface casing								
8- 8-91	3764	8.4	--								--	--	--	2,403
8- 9-91	4360	8.3	26								900	280	11.5	2,504
8-10-91	4933	8.4/8.4	26								900	280	11.5	2,633
8-11-91	5325	8.3/8.3	26								1000	280	11.5	2,690
8-12-91	5885	8.3/8.3	26								1000	160	11.5	3,001
8-13-91	6360	8.3/8.3	26								1000	160	11.5	3,238
8-14-91	6657	8.3/8.3	26								1000	160	11.5	3,538
8-15-91	7025	8.5/8.3	30			Mudding Up for Core #1					800	120	11.0	3,717 Discounted
8-16-91	7028	8.4	32	2	8	4/5	26	2	1.5	--	800	50	10	6,325 Total Cost
8-17-91	7085	8.6	34	3	10	5/10	18	2	2	--	800	40	10.5	5,099 Discounted
8-18-91	7085	8.8	35	3	12	5/12	14.8	2	3.25	--	800	40	10.5	5,405
8-19-91	7144	9.0	35	4	15	6/14	14	2	4.25		750	40	10.5	7,205 Net Disc.
8-20-91	7150	9.0	36	5	15	6/16	14.8	2	4.25		750	40	10.5	--
8-21-91	7217	9.1	35	8	5	2/6	14.0	2	5.8		600	Tr	10.5	7,680
8-22-91	7427	8.8	33	6	4	2/4	14.0	2	3.5		500	Tr	10.5	8,137
8-23-91	7530	8.9	32	6	4	2/3	14.0	2	4.3		500	Tr	10.0	8,518
8-24-91	7710	8.9	31	5	3	2/4	14.0	2	4.3		500	Tr	9.5	8,977

Date	Depth	Weight In/Out	V	PV	YP	Gel	WL	FC	% Sol	% Oil	Chlorides ppm	Calcium ppm	pH	Mud Costs Cum.
8-25-91	7850	8.8	30	5	3	2/4	15.0	2	3.5		400	40	9.5	9,202
8-26-91	8005	8.8	30	5	3	2/4	15.5	2	3.5		400	80	9.5	9,422
8-27-91	8310	8.8+	30	5	3	2/4	16	2	4		300	60	9.5	9,720
8-28-91	8600	8.9	31	7	4	2/4	16	2	4.3	--	200	40	10	10,098
8-29-91	8720	9.0+	44	15	15	8/6	14	2	5		300	40	10	10,874
8-29-91	8720			Run E-Logs										

Note FL Temp. 90° F.

BIT RECORD

Well: #4-2A2 Duncan State: Utah

Bit No.	Size	Make	Type	Jets	Depth Cut	Footage	Hours	T	B	G
1	11"	STC	DSJ	3-18	546	462	11.5	8	8	.25
2	11"	STC	DSJ	3-18	1098	552	9	8	7	.25
3	11"	STC	DST	3-18	1504	406	7	8	7	.25
4	11"	STC	DST	3-18	1685	181	4	8	8	.125
5	11"	HTC	OSC	3-18	1840	155	3.25	8	8	.125
6	11"	STC	DSJ	3-18	2194	354	8	8	7	.125
7	11"	STC	DGJ	3-18	2329	135	4	8	8	.125
8	11"	STC	DGJ	3-18	2514	185	4.5	6	8	.125
9	11"	HTC	R1	3-18	2852	338	6	6	8	.125
10	11"	STC	DSJ	3-18	3188	336	9	7	8	.125
11	11"	HTC	R1	3-18	3415	227	7	6	7	.125
12	11"	HTC	R1	3-18	3500	85	2	7	7	.125
13	7 7/8"	HTC	RR ATJ-22	1-11 1-12 1-B	5200	1725	69	6	7	.25
14	7 7/8"	STC	F3H	1-11 1-12 1-B	6541	1321	61	6	7	.25
15	7 7/8"	HTC	ATJ-44	3-10	7025	484	26	8	5	.125
C-1	7 7/8"	Chris	C201	--	7085	60	14	Core		
RR C-1	7 7/8"	Chris	C201	--	7144	59	21.5	Core		
16	7 7/8"	Reed	HP62A	3-10	7217	73	9	2	0	1.
17	7 7/8"	Reed	HP62A	3-10	7487	270	29	8	8	.75
RR 18	7 7/8"	Reed	HP62A	3-10	7576	89	8	6	2	I
19	7 7/8"	Reed	HP54	3-10	8005	429	41.5	2	2	I
20	7 7/8"	Reed	HP53A	3-10	8720	717	48.5	8	6	.125

DEVIATION SURVEY

DEPTH	DEVIATION	KIND
161	0°	
840	1°	
1370	2°	
1685	1 3/4°	
1985	1/4°	
2194	1 1/4°	
2329	3/4°	
2523	3/4°	
2852	1°	
3188	3/4°	
3500	1 1/4°	
3980	1°	
4510	1°	
5004	1 1/4°	
5220	3/4°	
5706	3/4°	
6328	3/4°	
6541	1°	
7217	1°	
8680	1 1/2°	

NOTIFICATION AND INFORMATION REQUIREMENTS

Pennzoil Company
[redacted]2A2 Duncan
Sec. 4, T1S, R2W
Duchesne Co., Utah

LETTER
Pennzoil Company
P.O.Box 2967
Houston, TX
77252-2967
ATTN: Greg Stevens

LARGE PACKAGES
Pennzoil Company
700 Milam
Houston, TX
77002
ATTN: Greg Stevens

	AFE & Well Prognosis	State Permits, Reports, Survey, etc.	Daily Drilling Reports - Phone	Daily Drilling Reports - Mail	Electric Logs - Field Prints	Electric Logs - Final Prints	Electric Logs - Film Prints	Electric Logs - Tape LIS Format	Log Interpretations as needed	Notice prior to & results of DST's Cores, Logging, Plugging, etc.	Reports - DST, Geological Completion, Fluid Analysis, etc.	Daily Mud Log & Final Mud Log	Cuttings of samples
Pennzoil Company P.O. Box 2967 - 27th Floor Houston, Texas 77252-2967 ATTN: Greg Stevens Office: (713) 546-8399	1	2	1	1	2	2	1	1	1	1	2	1&2	1
Pennzoil Company P.O. Box 290 Neola, Utah 84053 ATTN: Danny Layman	2	1	0	0	1	0	0	0	0	1	1	0&1	0
Utah Oil, Gas & Mining 3[redacted]West North Temple Suite 350 Salt Lake City, UT 84180	0	1	0	0	0	1	0	0	0	0	1	0&1	1
Flying J Oil & Gas, Inc. 333 W. Center, Box 540180 North Salt Lake City, Utah 84054-0180 Attn: Carl Kendell (801)298-7733	1	1	1	1	1	1	0	0	1	1	1	0&1	0
WEC 1983 Program 6224 Baird Avenue Reseda, California 91335	1	0	0	0	0	0	0	0	0	0	0	0&0	0
Croff Oil Company 1675 Larimer Street, Suite 610 Denver, CO 80202 Attn: Mara Jauch (303)893-2213	1	1	0	0	1	1	0	0	1	1	1	0&1	0
Jardine Linmar Energy, Inc. 800 Airport Blvd., Suite 402 Bu[redacted]ngame, California 94010 Attn: J. J. Fordwood (415)342-5037	1	1	0	0	1	1	0	0	1	1	1	0&1	0
Lamar B. Roemer 530 South University Denver, CO 80201	1	0	0	0	0	1	0	0	0	0	0	0&1	0

FORM 25 - 7R9 (1)

NOTIFICATION AND INFORMATION REQUIREMENTS

Pennzoil Company
[redacted]2A2 Duncan
[redacted]. 4, T1S, R2W
Duchesne Co., Utah
Page 2

	AFE & Well Prognosis	State Permits, Reports, Survey, etc.	Daily Drilling Reports - Phone	Daily Drilling Reports - Mail	Electric Logs - Field Prints	Electric Logs - Final Prints	Electric Logs - Film Prints	Electric Logs - Tape LIS Format	Log Telecopies as needed	Notice prior to & results of DTS's, Cores, Logging, Plugging, etc.	Reports - DST, Geological, Completion, Fluid Analysis, etc.	Daily Mud Log & Final Mud Log	Cutting of samples
John W. Clark 7979 E. Tufts Avenue Parkway Suite 604 Denver, CO 80237 Attn: Marleen Boyle (303)773-8003	1	1	0	0	1	1	0	0	1	1	1	0&1	0
B. J. Lewis 7979 E. Tufts Avenue Parkway Suite 604 Denver, CO 80237 Attn: Marleen Boyle (303)773-8003	0	0	0	0	0	0	0	0	0	0	0	0&0	0
[redacted]rt R. Bush 2985 Robidoux Road Sandy, Utah 84092 Attn: (801)944-4700	1	1	0	0	1	1	0	0	1	1	1	0&1	0
Ronald Coulam 960 Donner Way, #240 Salt Lake City, Utah 84108 Attn: (801)583-8345	1	1	0	0	1	1	0	0	1	1	1	0&1	0
G. K. Bailey 7979 E. Tufts Avenue Pkwy Suite 604 Denver, CO Attn: Marleen Boyle (303)773-8003	0	0	0	0	0	0	0	0	0	0	0	0&0	0
Badger Oil Corporation P.O. Drawer 52745 Lafayette, Louisiana 70505	1	0	0	0	0	1	0	0	0	0	0	0&1	0
Total	12	10	2	2	9	11	1	1	1	8	10	1&12	2

LUEBELL-ALTAMONT DATABASE FACIES DATABASE SHALE COLOR

WELL NAME: #4-242 Duncan API NO: 43-013-31276-cc

Depth	Yellow	Red	Green	Light Gray	Dark Gray	Black	Brown	Comments	FACIE
300-20	30	30	10	10				white 20 mica	M
320-50	30	20	10	30				white 10	M
	40	10	20	20				wht (10)	M
70	40	10	20	20				w 10	M
80	30		20	40				w 10	M
90	30		20	40				w10	M
6400	30	30	10	20				w tr	A
10	20	10	20	20			30	brn. v. calc	A
20	20	10	10	30			20	10% wht	M
30	20	30	10	20			tr	20% wht	A
40	"	"	"	"				"	A
50		20	10	tr			20	50% wht	M
60		20	10	tr			20	50% wht	M
70	10	20		10				60% wht	M
80	10	20		10				60% wht	M
90	10	10	10	10			10	50% wht	M
6500	10	20		10			20	40% wht	M
10	10	20	tr	tr			20	40% wht	M
20	10	20		10			10	50% wht	M
30	10						40	50% wht	M
40	10						40	50% wht	M
[illegible]2	10		10	20			20	40 wht	M
[illegible]60	10			40			20	30 wht, subwxy, earthy	M
70	10			40			20	30 "	M
80	30	30		20			20	10 "	A
90	20	30	10	10			20	10	A
6600	20	30	10	10			20	10	A
10	30	30	10	10			20	10	A
20	30	20	tr	30			10	10	A
30	20	20		30			10	10	A
40	30	20		30			10	10	A
50	10	30	10	20			10	20	A
60	20	30	tr	30			10	10	M
70	20	40		30			10	10	M
80	20	10	10	30			20	10	M
90	20	10	10	30			20	10	M
6700	10	20	10	40			10	10	M
10	10	20	10	40			10	10	M
20	10	20	10	40			10	tr	M
30	10	20	10	40			10	tr	M
40	10	20	10	40			10	10	M
50	10	20	10	30			10	30	M
60	10	20	10	30			10	20	M
70	10	20	10	30			10	20	M
80	10	20	10	30			10		M
90	10	20	tr	30			20	20	M
6800	10	30	10	20			tr	40	M
next page									

BLUEBELL-ALTAMONT DATABASE FACIES DATABASE SHALE COLOR

WELL NAME: #4-242 Duncan API NO: 43-013-31276-00

Depth	Yellow	Red	Green	Light Gray	Dark Gray	Black	Brown	Comments	FACIE
6810		20	20	50			tr	10 wht sub waxy earthy	M
20		20	20	50			tr	10	
30		Sand							
40		Sand							
50	10	20	10	30	10		10	10 wht	M
60		Sand							
70	20	20	20	40	tr		tr		M
80	10	10	20	50	tr		tr	10 wht	M
90	20	20	20	30	tr		tr	10 "	M
6900		pred	Sand						
10	10	10	10	40	tr		10	10 wht	M
20	20	10	10	40	tr		10	10 "	M
30	20	20	10	Sand	tr		10	tr	M
40	20	10	10	50	tr		tr	10 wht	M
50	20	20	10	40	tr		10	tr	M
60	20	10	10	50	tr	pred sd	10	tr	M
70	10	10	10	50	tr		10	10 wht	M
80	10	20	10	40	tr		20	tr	M
90	20	10	tr	50	tr		20	tr	M
7000	10	30	10	30	tr		10	10 wht	A
10	20	20	10	20	tr		20	tr	A
20	20	20	10	40	tr		tr	10 wht pr spl (ravine)	M-A
30	10	10	10	40			30		
40									
50									
60									
70									
80									
90									
7100									
10									
20									
30									
40									
50	10	10	20	40	tr		20	Pr. Spl after trip	M
60	10	10	20	40	tr		20	pred Ss	
70	10	10	10	40			30		
80	10	10	tr	50			30	pred Ss	
90	20	10		40	tr		30	" "	
7200	20	10	tr	40	tr		30		M-L ?
10	20	20	10	30			20		M
20	20	20	tr	40	tr		20		M
30	20	20	tr	40	tr		20		M
40								Sand pred	M
50	20	10	10	30			30		M
60	20	10		40			30		M
70	30	10		30			30		M
80	30	20	10	20			20		M
90	20	10	10	30%			30		M
7300	10	20		20	20		30		L

WELL NAME: #4-2A2 Duncan API NO: 43-013-31276-00

Depth	Yellow	Red	Green	Light Gray	Dark Gray	Black	Brown	Comments	FACIE
7310	20	10	—	20	20	—	20	pred Sltst	L
20	20	30	tr	40	—	—	10		M
30	20	30	tr	40	—	—	10		M
40	30	10	—	10	30	—	20		L
50	20	10	—	20	20	—	30		L
60	—	—	—	—	—	—	—	sand	—
70	30	tr	—	30	tr	—	40		M-L
80	30	tr	10	40	tr	—	20		M
90	30	10	10	30	—	—	20		M
7400	20	10	—	20	10	—	40		M
10	30	10	10	20	—	—	30		M
20	20	10	—	30	—	—	40		M
30	20	—	20	20	—	—	40		M
40	30	30	10	20	—	—	10		A
50	20	20	10	30	—	—	10		A
60	20	30	—	30	—	—	20		A
70	30	10	10	30	—	—	20		M
80	—	—	—	—	—	—	—	No Spl	—
90	40	10	—	30	—	—	20		M
7500	30	10	10	20	—	—	30		M
10	20	20	10	30	—	—	20		M
20	20	20	10	30	—	—	20		M
30	40	10	—	20	—	—	30		M
40	20	10	10	20	—	—	40		M
50	30	10	20	10	—	—	30		M-L
60	10	10	20	20	—	—	40		M-L
70	20	10	20	20	—	—	30		M-L
80	30	20	10	20	—	—	30		M-L
90	30	20	10	10	tr	—	30		M-L
7600	30	20	10	10	tr	—	30		M-L
10	20	20	10	30	—	—	20		M
20	20	10	20	30	—	—	20		M
30	20	10	20	20	—	—	30		M
40	30	tr	10	20	tr	—	40		M-L
50	20	10	20	20	tr	—	30		M-L
60	20	10	10	20	tr	—	40		M-L
70	20	10	10	20	tr	—	40		M-L
80	30	30	10	20	—	—	10	sand	A
90	30	20	10	20	—	—	20		A
7700	20	10	10	10	—	—	40		M
10	20	tr	10	10	—	—	60		M
20	20	10	10	20	—	—	40		M
30	20	tr	10	20	—	—	50		M
40	30	tr	10	20	—	—	40		M
50	30	tr	10	tr	—	—	60		M
60	20	10	10	20	—	—	40		M
70	20	10	10	20	—	—	40		M
80	30	10	tr	20	—	—	40		M
90	40	tr	tr	30	—	—	30		M
7800	30	10	tr	30	—	—	40		M

4/5

BLUEBELL-ALTAMONT DATABASE FACIES DATABASE SHALE COLOR

WELL NAME: #4-242 Duncan API NO: 43-013-31276-00

Depth	Yellow	Red	Green	Light Gray	Dark Gray	Black	Brown	Comments	FACIE
1810	40	10		20			30		M
20	30	10	tr	30			30		M
30	30	10		30			30		M
40	30	10		40			20		M
50	40	10		30			20		M
60	30	20		30			20		A
70	20	30	10	30			20		A
80	30	10	tr	30			30		M
90	30	10	tr	20			40		M
00	30	10	10	30			20		M
10	10	20	10	20			30		M
20	10	10	20	20			30		M
30	20	20	20	30	tr		10		M
40	20	10	20	30	tr		20		M
50	30	10	10	20			30		M
60	30	10	10	20			30		M
70	20	20	tr	20			40		A
80	20	20	tr	20			40		A
90	30	20	10	20			30		A
200	20	20	10	20			30		A
10	20	10	tr	20			50		M
20	20	20	10	10			40		M
30	20	10	tr	30			40		A
40	10	tr	tr	30			60		M
50	30	10	tr	20			40		M
60	30	10	tr	20			40		M
70	20	10	10	30			30		M
80	30	tr	10	30			40		M
90	20	10	tr	30			40		M
00	30	tr	10	20			40		M
10	30	tr	10	30			30		M
20	30	10	10	20			30		M
30	30	10	10	30			20		M
40	20	10	tr	30			40		M
50	30	10	tr	20			40		M
60	20	10	10	20			40		M
70	30	tr	10	20			40		M
80	30	tr	10	20			40		M
90	20	10	tr	20			50		M
200	30	10	tr	20			40		M
10	30	10	10	20			30		M
20	20	10	10	30			30		M
30	20	tr	20	20			40		M
40	20	tr	10	20			50		M
50	20	tr	tr	20			60		M
60	30	10	10	20			30		M
70	20	10	tr	20			50		M
80	30		tr	10			60		M
90	20	10		20			50		M
300	20	10		20			50		M

5'
15

LUEBELL-ALTAMONT DATABASE FACIES DATABASE SHALE COLOR

WELL NAME: #4-2A2 Duncan API NO: #3-013-31276-00

Depth	Yellow	Red	Green	Light Gray	Dark Gray	Black	Brown	Comments	FACIE
310	20	tr	10	10			60		M
20	20	tr	10	10			60		
30	20	tr	tr	10			70	dk brn v. calc	
40	30	tr		10			60		
50	30	tr	10	10			50		
60	30	tr	10	20			40		
70	20	tr	10	10			60		L
80	20	tr	10	20			50		
90	20	10	tr	20			50		
400	20	10	tr	10			60		
10	20	10		20			50		
20	20	tr	10	10			60		
30	30	tr	10	10			50		
40	30	10	10	10			40		
50	30	tr	10	10			50		
60	10		10	10			70	Sand	
70	10	10		10			70		
80	10		10	20			60		
90	10		10	20			60		
500	10	10		10			70		
10	20		tr	20			70		
20	20	10	tr	10			60		
30	30	20		10			40		A
40	30	30		tr			40		A
50	20	10		10			60		L
60	10	10		10			70	dk brn oil sh	
70	10	10		10			70		
80	10	10	tr	tr			80		
90	10	tr	tr	tr			90		
600	tr		10	tr			90		
10	10%			10%			80		
20	10			10			80		
30	tr	tr	tr	tr			100		
40	tr	tr	tr	10	tr		90		
50	10	tr	tr	10			80		
60	10	tr		10	tr		80		
70	10	tr	10	10			70		
80	10	tr	tr	10			80		
90	20	tr	tr	10			70		- M
700	20	tr	10	10			60		- M
10	20	10	-	10			60		
20 TD	20	10	10	10			50		

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Utah State Office
P.O. Box 45155
Salt Lake City, UT 84145-0155

In Reply Refer To:
3100
U-4377
UTU-66485
(UT-932)

MAR 2 6 1999

NOTICE

PennzEnergy Exploration and Production L.L.C.
P.O. Box 2967
Houston, TX 77252-2967

: Oil and Gas

Merger Recognized

Acceptable evidence has been filed in this office concerning the merger of Pennzoil Exploration and Production Company into PennzEnergy Exploration and Production L.L.C. with PennzEnergy Exploration and Production L.L.C. being the surviving entity.

For our purposes, the merger is recognized effective December 28, 1998, (Secretary of State's approval date).

Oil and gas lease files U-4377 and UTU-66485 have been noted as to the merger. The lease file numbers were obtained from a list of leases drawn from our Automated Land and Mineral Record System (ALMRS). We have not abstracted the lease files to determine if the entity affected by the merger holds an interest in the leases identified nor have we attempted to identify leases where the entity is the operator on the ground maintaining no vested record title or operating rights interests. We are notifying the Minerals Management Service and all applicable Bureau of Land Management offices of the change by a copy of this notice. If additional documentation for changes of operator are required by our Field Offices, you will be contacted by them.

By recognition of the merger, the principal/obligor is automatically changed by operation of law from Pennzoil Exploration and Production Company to PennzEnergy Exploration and Production L.L.C. on Bond No. 8023 29 91 (BLM Bond No. NM0043). The principal/obligor is also automatically changed from Pennzoil Exploration and Production Company to PennzEnergy Exploration and Production L.L.C. on Bond No. 8134-90-99 (BLM Bond No. NM2142).

IRENE J. ANDERSON

Irene J. Anderson
Acting Group Leader,
Minerals Adjudication Group

cc: Moab Field Office
Vernal Field Office
MMS, Reference Data Branch, MS 3130, Box 5860, Denver, CO 80217
State of Utah, DOGM, Attn: Kristen Risbeck (Ste. 1210), Box 145801, SLC, UT 84114-5801
Teresa Thompson (UT-931)

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Utah State Office
P.O. Box 45155
Salt Lake City, UT 84145-0155

In Reply Refer To:
3100
U-0115615 et al
(UT-932)

MAR 2 6 1999

NOTICE

PennzEnergy Company
P.O. Box 2967
Houston, TX 77252-2967

: Oil and Gas

Merger Recognized

Acceptable evidence has been filed in this office concerning the merger of PennzEnergy Company into Pennzoil Company with PennzEnergy Company being the surviving entity.

For our purposes, the merger is recognized effective December 30, 1998, (Secretary of State's approval date).

The oil and gas lease files and communitization agreement computer files identified on the enclosed exhibit have been noted as to the merger. The exhibit was compiled from a list of leases obtained from our Automated Land and Mineral Record System (ALMRS). We have not abstracted the lease files to determine if the entity affected by the merger holds an interest in the leases identified nor have we attempted to identify leases where the entity is the operator on the ground maintaining no vested record title or operating rights interests. We are notifying the Minerals Management Service and all applicable Bureau of Land Management offices of the change by a copy of this notice. If additional documentation for changes of operator are required by our Field Offices, you will be contacted by them.

By recognition of the merger, the principal/obligor is automatically changed by operation of law from Pennzoil Company to PennzEnergy Company on Bond No. 8134-90-99 (BLM Bond No. NM2142).

IRENE J. ANDERSON

Irene J. Anderson
Acting Group Leader,
Minerals Adjudication Group

Enclosure
Exhibit

cc: Moab Field Office
Vernal Field Office
MMS, Reference Data Branch, MS 3130, Box 5860, Denver, CO 80217
State of Utah, DOGM, Attn: Kristen Risbeck (Ste. 1210), Box 145801, SLC, UT 84114-5801
Teresa Thompson (UT-931)

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Utah State Office
P.O. Box 45155
Salt Lake City, UT 84145-0155

FEB 16 2000

In Reply Refer To:
3106
U-0575A et al
(UT-932)

NOTICE

Devon Energy Production Company L.P.	:	Oil and Gas
20 North Broadway, Suite 1500	:	U-0575A et al
Oklahoma City, Oklahoma 73102-8260	:	

Merger Recognized

Acceptable evidence has been filed in this office concerning the merger of Devon Energy Corporation (Nevada) and PennzEnergy Exploration and Production Company, L.L.C. into Devon Energy Production Company, L.P. with that company being the surviving entity.

The oil and gas lease files listed on the enclosed exhibit have been noted as to the merger. The exhibit was compiled from your list of leases, and a list of leases obtained from our computer system. We have not attempted to identify leases where the entities are the operator on the ground maintaining no vested record title or operating rights interests. We are notifying the Minerals Management Service and all applicable Bureau of Land Management offices of the merger by a copy of this notice. If additional documentation for changes of operator are required by our Field Offices, you will be contacted by them.

PennzEnergy Company assigned 100 percent of the record title interest, in the following leases on the list submitted by Devon Energy Production Company L.P., to Barrett Resources Corporation (Barrett) effective January 1, 2000.

U-0143511	U-4377	UTU-67943
U-0143512	U-4378	

Subsequently, Barrett assigned 100 percent of the record title interest to Coastal Oil & Gas Corporation effective February 1, 2000. A copy of this notice is being placed in these files to cover any overriding royalty interest that would be held by the surviving entity.

Lease U-0115614A is held 100 percent by Flying J Oil & Gas. PennzEnergy Company holds 100 percent of the record title interest in lease U-3575. No record title assignment assigning the interest to PennzEnergy Exploration and Production Company, L.L.C. has been filed in this office. A copy of this notice will be placed in the lease files to cover any overriding royalty interest that would be held by the surviving entity.

Leases U-61343, UTU-64532, UTU-66485 and UTU-75200 have expired and are closed on the records of this office.

An assumption rider for BLM Bond No. CO1104 has been filed in the Colorado State Office.

/s/ Robert Lopez

Robert Lopez
Chief, Branch of
Minerals Adjudication

Enclosure
Exhibit

cc: Vernal Field Office (w/encl.)
Moab Field Office (w/encl.)
MMS, Reference Data Branch, MS3130, P.O. Box 5860, Denver, CO 80217 (w/encl.)
State of Utah, DOGM, Attn: Kristen Risbeck (Ste. 1210), Box 145801, SLC, UT (w/encl.)
Teresa Thompson (UT-931) (w/encl.)
Irene Anderson (UT-932) (w/encl.)
LaVerne Steah (UT-942) (w/encl.)

Exhibit of Leases

U-0575A
U-01188B
U-016654
U-0115614A
U-0115615
U-0126825
U-0141454
U-0141459
U-0143511
U-0143512
U-0144868A
U-3099
U-3575
UTU-74888
U-4377
U-4378
U-16131
U-31262
U-44426
UTU-67943

Communitization Agreements

U-58774
U-58799
U-58830
U-58834
U-58835
U-58839
U-58844
U-58854
U-60827
U-60831
U-68998

Devon Energy Production Company, L.P.

Certificate of Merger

FILED

DEC 3 0 1999

OKLAHOMA SECRETARY OF STATE

TO: The Oklahoma Secretary of State
101 State Capitol
Oklahoma City, Oklahoma 73105

Devon Energy Production Company, L.P., a limited partnership organized under the laws of the State of Oklahoma, for the purpose of filing a Certificate of Merger pursuant to the provisions of 54 O.S. § 310.1, does hereby execute the following Certificate of Merger:

1. The name and jurisdiction of formation or organization of each of a domestic limited partnership, a foreign corporation and a foreign limited liability company which are to merge are:

Name of Organization	Type of Organization	Jurisdiction of Formation
Devon Energy Production Company, L.P.	Limited Partnership	Oklahoma
Devon Energy Corporation (Nevada)	Corporation	Nevada
PennzEnergy Exploration and Production Company, L.L.C.	Limited Liability Company	Delaware

2. An Agreement of Merger has been approved and executed by the limited partnership, the corporation and the limited liability company which are to merge.

3. The name of the surviving or resulting limited partnership is:

Devon Energy Production Company, L.P.

4. The merger shall be effective upon the filing of this Certificate of Merger with the Secretary of State of Oklahoma.

5. The Agreement of Merger is on file at the place of business of the surviving limited partnership at 1500 Mid-America Tower, 20 North Broadway, Oklahoma City, Oklahoma 73102.

6. A copy of the Agreement of Merger shall be furnished by the surviving or resulting limited partnership, upon request and without cost, to any partner of any limited partnership or any person holding an interest in any other business entity which is to merge.

RECEIVED

MAR 1 3 2000

DIVISION OF
OIL, GAS AND MINING

DATED as of the 30th day of December, 1999.

Devon Energy Management Company, L.L.C.
General Partner

By: _____
J. Larry Nichols, Manager

LD 635381-001

OFFICE OF THE SECRETARY OF STATE

STATE OF OKLAHOMA

CERTIFICATE OF MERGER

WHEREAS,

DEVON ENERGY PRODUCTION COMPANY, L.P.

a limited partnership organized under the laws of the State of ***OKLAHOMA,*** *has filed in the office of the Secretary of State duly authenticated evidence of a merger whereby said limited partnership is the survivor, as provided by the laws of the State of Oklahoma.*

NOW THEREFORE, I, *the undersigned Secretary of State of Oklahoma, by virtue of the powers vested in me by law, do hereby issue this Certificate evidencing such merger.*

IN TESTIMONY WHEREOF, *I hereunto set my hand and cause to be affixed the Great Seal of the State of Oklahoma.*

Filed in the City of Oklahoma City this 30TH *day of* DECEMBER, 1999.

Mike Hunter

Secretary of State

By: Barb Acree

FORM 5

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

DESIGNATION OF AGENT OR OPERATOR

The undersigned is, on record, the holder of oil and gas lease

LEASE NAME: As per the attached spreadsheet.

LEASE NUMBER:

and hereby designates

NAME: Devon Energy Production Company, L.P.

ADDRESS: 20 North Broadway, Suite 1500, Oklahoma City, OK 73102-8260

as his agent ☐/operator ☒ with full authority to act in his behalf in complying with the terms of the lease and regulations applicable thereto and on whom the Division Director or Authorized Agent may serve written or oral instructions in securing compliance with the Oil and Gas Conservation General Rules and Procedural Rules of the Board of Oil, Gas and Mining of the State of Utah with respect to:

(Describe acreage to which this designation is applicable, and identify each applicable oil and gas well by name and API number. Attach additional pages as needed.)

See attached spreadsheet.

Note: Please use April 1, 2000 as the starting date for production reporting purposes.

RECEIVED

APR 20 2000

DIVISION OF
OIL, GAS AND MINING

It is understood that this designation of agent/operator does not relieve the lessee of responsibility for compliance with the terms of the lease and the Oil and Gas Conservation General Rules and Procedural Rules of the Board of Oil, Gas and Mining of the State of Utah. It is also understood that this designation of agent or operator does not constitute an assignment of any interest in the lease.

In case of default on the part of the designated agent/operator, the lessee will make full and prompt compliance with all rules, lease terms or orders of the Board of Oil, Gas and Mining of the State of Utah or its authorized representative.

The lessee agrees to promptly notify the Division Director or Authorized Agent of any change in this designation.

Effective Date of Designation: January 1, 2000

BY: (Name) R. D. Clark

(Signature)

(Title) Vice President

(Phone) 405-235-3611

OF: (Company) PennzEnergy Exploration and Production Company, L.L.C.

(Address) 20 North Broadway, Suite 1500

Oklahoma City, OK 73102-8260

(7/93)

DEVON ENERGY PRODUCTION COMPANY, L.P.
UTAH PROPERTIES

	API NO.	WELL NAME & NO.	LOCATION	COUNTY	FIELD NAME	LEASE NO. / AGREEMENT NO.
28	4301330297	GEORGE MURRAY 1-16B1	SENW-16-2S-1W	DUCHESNE	BLUEBELL	
29	4301330307	UTE ALLOTTED 1-36Z2	NWSE-36-1N-2W	DUCHESNE	BLUEBELL	1420H621676 / 9C124
30	4301330347	LAMICQ URRUTY U 4-5A2	SENW-5-1S-2W	DUCHESNE	BLUEBELL	
31	4301330359	H G COLTHARP 1-15B1	SENW-15-2S-1W	DUCHESNE	BLUEBELL	
32	4301330369	STATE 3-18A1	NESW-18-1S-1W	DUCHESNE	BLUEBELL	9C142
[illegible]	4301330564	D L GALLOWAY 1-14B2	SWNE-14-2S-2W	DUCHESNE	BLUEBELL	
34	4301330807	MARGUERITE 2-8B2	SENW-8-2S-2W	DUCHESNE	BLUEBELL	96102
35	4301330809	LAMICQ 2-6B1	NWSE-6-2S-1W	DUCHESNE	BLUEBELL	
36	4301330821	DILLMAN 2-28A2	SWNE-28-1S-2W	DUCHESNE	BLUEBELL	
37	4301330903	HAMBLIN 2-26A2	SWNE-26-1S-2W	DUCHESNE	BLUEBELL	
38	4301330912	RACHEL JENSEN 2-16C5	NENW-16-3S-5W	DUCHESNE	ALTAMONT	
39	4301330921	ROBERTSON UTE 2-2B2	NENE-2-2S-2W	DUCHESNE	BLUEBELL	9682
40	4301330975	JOHN 2-3B2	NWNE-3-2S-2W	DUCHESNE	BLUEBELL	
41	4301330995	LAMICQ ROBERTSON STATE 2-1B2	SWNE-1-2S-2W	DUCHESNE	BLUEBELL	
42	4301331009	UTE 2-7A2	CNE-7-1S-2W	DUCHESNE	BLUEBELL	1420462811
43	4301331147	HATCH 2-3B1	SENW-3-2S-1W	DUCHESNE	BLUEBELL	
44	4301331151	NORLING 2-9B1	SWSW-9-2S-1W	DUCHESNE	BLUEBELL	
45	4301331184	SHAW 2-27A2	SESW-27-1S-2W	DUCHESNE	BLUEBELL	
[illegible]	4301331190	LAMICQ URRUTY 4-17A2	SENW-17-1S-2W	DUCHESNE	BLUEBELL	
47	4301331191	LAMICQ 2-20A2	SESE-20-1S-2W	DUCHESNE	BLUEBELL	
48	4301331192	BOREN 3-11A2	SWSW-11-1S-2W	DUCHESNE	BLUEBELL	96107
49	4301331203	FRESTON 2-8B1	SWNE-8-2S-1W	DUCHESNE	BLUEBELL	
50	4301331215	WISSE 3-35A2	SWSW-35-1S-2W	DUCHESNE	BLUEBELL	
51	4301331231	MECCA 2-8A2	SESE-8-1S-2W	DUCHESNE	BLUEBELL	
52	4301331232	MARK 2-25A2	NWNE-25-1S-2W	DUCHESNE	BLUEBELL	NW537
53	4301331233	DUNCAN 4-12A2	SWNW-12-1S-2W	DUCHESNE	BLUEBELL	UTU77363
54	4301331235	SWYKES 2-21A2	NWNW-21-1S-2W	DUCHESNE	BLUEBELL	NW590

DEVON ENERGY PRODUCTION COMPANY, L.P.
UTAH PROPERTIES

	API NO.	WELL NAME & NO.	LOCATION	COUNTY	FIELD NAME	LEASE NO. / AGREEMENT NO.
55	4301331238	SHERMAN 2-12B2	SWSE-12-2S-2W	DUCHESNE	BLUEBELL	9690
56	4301331245	MILES 7-7B3	SWNW-7-2S-3W	DUCHESNE	ALTAMONT	9675
57	4301331276	DUNCAN 4-2A2	NESE-2-1S-2W	DUCHESNE	BLUEBELL	
58	4301331278	HAMBLIN 3-9A2	SENE-9-1S-2W	DUCHESNE	BLUEBELL	
59	4301331285	DUNCAN 3-7A1	NWNW-7-1S-1W	DUCHESNE	BLUEBELL	
[illegible]	4301331286	BAR F 2-5B1	SWSE-5-2S-1W	DUCHESNE	BLUEBELL	
[illegible]	4301331299	CORNABY 2-14A2	NENE-14-1S-2W	DUCHESNE	BLUEBELL	NW498
62	4301331317	MITCHELL 2-4B1	SESW-4-2S-1W	DUCHESNE	BLUEBELL	9662
63	4301331321	SMITH 2-9C5	SWSW-9-3S-5W	DUCHESNE	ALTAMONT	
64	4301331322	LORANGER 2-24A2	N/2NE-24-1S-2W	DUCHESNE	BLUEBELL	
65	4301331325	UTE 2-6B3	SWSW-6-2S-3W	DUCHESNE	ALTAMONT	1420H621858 / 9651
66	4301331326	MCELPRANG 2-30A1	SWSW-30-1S-1W	DUCHESNE	BLUEBELL	NW625
67	4301331327	SMITH 2-7C5	NESW-7-3S-5W	DUCHESNE	ALTAMONT	1420H622389
68	4301331328	SMITH 2-18C5	SWSE-18-3S-5W	DUCHESNE	ALTAMONT	1420H622392
69	4301331329	UTE 2-24A3	SWNW-24-1S-3W	DUCHESNE	BLUEBELL	1420H621761
70	4301331330	UTE 5-19A2	NWNW-19-1S-2W	DUCHESNE	BLUEBELL	1420H621751
71	4301331332	EDWARDS 3-10B1	SWSW-10-2S-1W	DUCHESNE	BLUEBELL	
72	4301331333	SUNDANCE 4-15A2	SWNE-15-1S-2W	DUCHESNE	BLUEBELL	
[illegible]	4301331334	LORANGER 6-22A2	SWSW-22-1S-2W	DUCHESNE	BLUEBELL	
[illegible]	4301331335	COX 2-36A2	NWNW-36-1S-2W	DUCHESNE	BLUEBELL	
75	4301331338	SMITH 2-6C5	SESW-6-3S-5W	DUCHESNE	ALTAMONT	1420H622388 / UTU70553
76	4301331341	FRESTON 2-7B1	SENE-7-2S-1W	DUCHESNE	BLUEBELL	1420H621970 / 9686
77	4301331356	PEARSON 2-11B2	SENE-11-2S-2W	DUCHESNE	BLUEBELL	
78	4301331378	CHAPMAN 2-4B2	SWNW-4-2S-2W	DUCHESNE	BLUEBELL	
79	4301331390	LAMB 2-16A2	NENE-16-1S-2W	DUCHESNE	BLUEBELL	
80	4301331393	LABRUM 2-23A2	SWSW-23-1S-2W	DUCHESNE	BLUEBELL	
81	4301331820	POWELL 2-16B1	NENE-16-2S-1W	DUCHESNE	BLUEBELL	

DEVON ENERGY PRODUCTION COMPANY, L.P.
UTAH PROPERTIES

	API NO.	WELL NAME & NO.	LOCATION	COUNTY	FIELD NAME	LEASE NO. / AGREEMENT NO.
82	4304730164	ROBERTSON UTE ST 1-12B1	SWNE-12-2S-1W	UNITAH	BLUEBELL	96101
83	4304730176	MAY UTE FEDERAL 1-13B1	NWSE-13-2S-1W	UNITAH	BLUEBELL	NW673
84	4304731981	COOK 1-26B1	SWSW-26-2S-1W	UNITAH	BLUEBELL	UTU68998
85	4304732178	CHRISTIANSEN 2-12B1	SWSE-12-2S-1W	UNITAH	BLUEBELL	96101
86	4304732351	BALLARD 2-15B1	SENE-15-2S-1W	UNITAH	BLUEBELL	
[redacted]	4304732744	RICH 2-13B1	NWNW-13-2S-1W	UNITAH	BLUEBELL	NW673
88	4301320255	SWD 4-11A2	NWNW-11-1S-2W	DUCHESNE	BLUEBELL	96107
89	4301330021	SWD 1-3A2	SESE-3-1S-2W	DUCHESNE	BLUEBELL	
90	4301330346	SWD 2-28A2	NWSE-28-1S-2W	DUCHESNE	BLUEBELL	
91	4301330367	SWD 2-10B1	NWNW-10-2S-1W	DUCHESNE	BLUEBELL	
92	4301330389	SWD 2-26A2	NESW-26-1S-2W	DUCHESNE	BLUEBELL	
93	4301330388	SWD 2-17C5	SENE-17-3S-5W	DUCHESNE	BLUEBELL	

Division of Oil, Gas and Mining

OPERATOR CHANGE WORKSHEET

ROUTING		
1. GLH		4-KAS ✓
2. CDW ✓		5-~~BJ~~ ✓
3. JLT		6-FILE

Enter date after each listed item is completed

Change of Operator (Well Sold) — Designation of Agent

Operator Name Change (Only) — X **Merger**

The operator of the well(s) listed below has changed, effective: **04-01-2000**

FROM: (Old Operator):
PENNZOIL COMPANY
Address: P. O. BOX 290
NEOLA, UT 84053

Phone: 1-(435)-353-4121
Account No. N0705

TO: (New Operator):
DEVON ENERGY EXPL & PROD CO LLC
Address: 20 NO. BROADWAY STE 1500
OKLAHOMA CITY, OK 73102-8260

Phone: 1-(405)-235-3611
Account N1275

CA No. **Unit:**

WELL(S)

NAME	API NO.	ENTITY NO.	SEC. TWN RNG	LEASE TYPE	WELL TYPE	WELL STATUS
DUNCAN 4-2A2	43-013-31276	11258	02-01S-02W	FEE	GW	P
MECCA 2-8A2	43-013-31231	10981	08-01S-02W	FEE	OW	P
HAMBLIN 3-9A2	43-013-31278	11094	09-01S-02W	FEE	GW	P
SUNDANCE 4-15A2	43-013-31333	11269	15-01S-02W	FEE	OW	P
LAMB 2-16A2	43-013-31390	11487	16-01S-02W	FEE	OW	S
LAMICQ URRITY 4-17A2	43-013-31190	10764	17-01S-02W	FEE	OW	P
LAMICQ 2-20A2	43-013-31191	10794	20-01S-02W	FEE	OW	P
LORANGER 6-22A2	43-013-31334	11335	22-01S-02W	FEE	OW	P
LABRUM 2-23A2	43-013-31393	11514	23-01S-02W	FEE	OW	P
LORANGER 2-24A2	43-013-31322	11244	24-01S-02W	FEE	OW	P
SHAW 2-27A2	43-013-31184	10753	27-01S-02W	FEE	OW	P
WISSE 3-35A2	43-013-31215	10925	35-01S-02W	FEE	OW	P
COX 2-36A2	43-013-31335	11330	36-01S-02W	FEE	OW	P
HATCH 2-3B1	43-013-31147	10615	03-02S-01W	FEE	OW	P
BAR F 2-5B1	43-013-31286	11113	05-02S-01W	FEE	OW	P
FRESTON 2-8B1	43-013-31203	10851	08-02S-01W	FEE	OW	P
NORLING 2-9B1	43-013-31151	10616	09-02S-01W	FEE	OW	P
EDWARDS 3-10B1	43-013-31332	11264	10-02S-01W	FEE	OW	P
POWELL 2-16B1	43-013-31820	12342	16-02S-01W	FEE	OW	P
CHAPMAN 2-4B2	43-013-31378	11485	04-02S-02W	FEE	OW	P
PEARSON 2-11B2	43-013-31356	11359	11-02S-02W	FEE	OW	P
SMITH 2-9C5	43-013-31321	11245	09-03S-05W	FEE	OW	P
BALLARD 2-15B1	43-047-32351	11476	15-02S-01W	FEE	OW	S

OPERATOR CHANGES DOCUMENTATION

1. (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 04/20/2000

2. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 04/20/2000

3. The new company has been checked through the **Department of Commerce, Division of Corporations Database on:** 10/12/2000

4. Is the new operator registered in the State of Utah: YES Business Number: 4549132-0143

5. If **NO**, the operator was contacted contacted on: _____

6. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the (merger, name change, or operator change for all wells listed on Federal or Indian leases on: 02/16/2000

7. **Federal and Indian Units:** The BLM or BIA has approved the successor of unit operator for wells listed on: N/A

8. **Federal and Indian Communization Agreements ("CA"):** The BLM or the BIA has approved the operator change for all wells listed involved in a CA on: N/A

9. **Underground Injection Control ("UIC") Pro** The Division has approved UIC Form 5, **Transfer of Authority to Inject,** for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: N/A

DATA ENTRY:

1. Changes entered in the **Oil and Gas Database on:** 10/16/2000

2. Changes have been entered on the **Monthly Operator Change Spread Sheet on:** 10/16/2000

3. Bond information entered in RBDMS on: _____

4. Fee wells attached to bond in RBDMS on: _____

STATE BOND VERIFICATION:

1. State well(s) covered by Bond No.: _____

FEE WELLS - BOND VERIFICATION/LEASE INTEREST OWNER NOTIFICATION:

1. (R649-3-1) The **NEW** operator of any fee well(s) listed has furnished a bond: YES

2. The **FORMER** operator has requested a release of liability from their bond on: 09/26/2000
   The Division sent response by letter on: 10/03/2000

3. (R649-2-10) The **FORMER** operator of the Fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: 10/17/2000

FILMING:

1. All attachments to this form have been **MICROFILMED** on: 3.2.01

FILING:

1. **ORIGINALS/COPIES** of all attachments pertaining to each individual well have been filled in each well file on: _____

COMMENTS:

Division of Oil, Gas and Mining

OPERATOR CHANGE WORKSHEET (for state use only)

ROUTING
CDW

X - Change of Operator (Well Sold) Operator Name Change/Merger

The operator of the well(s) listed below has changed, effective: **8/29/2014**

FROM: (Old Operator):	**TO:** (New Operator):
DEVON ENERGY PRODUCTION COMPANY L.P. N1275	LINN OPERATING INC N4115
333 WEST SHERIDAN AVENUE	1999 BROADWAY STE 3700
OKLAHOMA CITY OK 73102-5015	DENVER CO 80202
	303-999-4275

CA No. **Unit:** N/A

WELL NAME	SEC	TWN	RNG	API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS
See Attached List								

OPERATOR CHANGES DOCUMENTATION

Enter date after each listed item is completed

1. (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 9/16/2014
2. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 9/16/2014
3. The new company was checked on the **Department of Commerce, Division of Corporations Database on:** 10/8/2014
4a. Is the new operator registered in the State of Utah: _____ Business Number: 9031632-0143
5a. (R649-9-2)Waste Management Plan has been received on: Yes
5b. Inspections of LA PA state/fee well sites complete on: N/A
5c. Reports current for Production/Disposition & Sundries on: 10/8/2014
6. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM NOT YET BIA NOT YET
7. **Federal and Indian Units:**
   The BLM or BIA has approved the successor of unit operator for wells listed on: N/A
8. **Federal and Indian Communization Agreements ("CA"):**
   The BLM or BIA has approved the operator for all wells listed within a CA on: N/A
9. **Underground Injection Control ("UIC")** Division has approved UIC Form 5 Transfer of Authority to **Inject,** for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: 9/24/2014

DATA ENTRY:

1. Changes entered in the **Oil and Gas Database on:** 10/8/2014
2. Changes have been entered on the **Monthly Operator Change Spread Sheet on:** 10/8/2014
3. Bond information entered in RBDMS on: 10/8/2014
4. Fee/State wells attached to bond in RBDMS on: 10/8/2014
5. Injection Projects to new operator in RBDMS on: N/A
6. Receipt of Acceptance of Drilling Procedures for APD/New on: 10/8/2014
7. Surface Agreement Sundry from **NEW** operator on Fee Surface wells received on: 9/16/2014

BOND VERIFICATION:

1. Federal well(s) covered by Bond Number: NMB000501
2. Indian well(s) covered by Bond Number: NMB000501
3a. (R649-3-1) The **NEW** operator of any state/fee well(s) listed covered by Bond Number LPM9149893
3b. The **FORMER** operator has requested a release of liability from their bond on: N/A

LEASE INTEREST OWNER NOTIFICATION:

4. (R649-2-10) The **NEW** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: 10/8/2014

COMMENTS:

Devon Energy Production Company, L.P. N1275 to Linn Operating, Inc N4115
Effective 8/29/2014

Well Name	Section	Township	Range AP	API Number	Entity	Mineral Lease	Well Type	Well Status
SWD 4-11A2	11	010S	020W	4301320255	99990	Fee	WD	A
VIRGIL MECHAM 1-11A2	11	010S	020W	4301330009	5760	Fee	WD	A
1-3A2	3	010S	020W	4301330021	99990	Fee	WD	A
BLUEBELL 2-28A2	28	010S	020W	4301330346	99990	Fee	WD	A
SALERATUS 2-17C5	17	030S	050W	4301330388	99990	Fee	WD	A
CENTRAL BLUEBELL 2-26A2	26	010S	020W	4301330389	99990	Fee	WD	A
BALLARD 2-15B1	15	020S	010W	4304732351	11476	Fee	WD	A
GALLOWAY #3-14B2	14	020S	020W	4301351741		Fee	OW	APD
GALLOWAY #3-12B2	12	020S	020W	4301351742		Fee	OW	APD
GALLOWAY 4-14B2	14	020S	020W	4301351818		Fee	OW	APD
MORRIS #3-8B1	8	020S	010W	4301351836		State	OW	APD
FRITZ #3-24A2	24	010S	020W	4301351837		Fee	OW	APD
GALLOWAY #2-14B2	14	020S	020W	4301351739	19044	Fee	OW	DRL
EMERALD 2-32A1	32	010S	010W	4301350059	17980	Fee	OW	OPS
CLYDE MURRAY 1-2A2	2	010S	020W	4301330005	5876	Fee	OW	P
VICTOR C BROWN 1-4A2	4	010S	020W	4301330011	5780	Fee	OW	P
DOUG BROWN 2-4A2	4	010S	020W	4301330017	5840	Fee	OW	P
L BOREN U 3-15A2	15	010S	020W	4301330086	5755	Fee	OW	P
LAMICQ-URTY U 3-17A2	17	010S	020W	4301330099	5745	Fee	OW	P
L BOREN U 5-22A2	22	010S	020W	4301330107	5900	Fee	OW	P
L BOREN U 4-23A2	23	010S	020W	4301330115	5905	Fee	OW	P
TOMLINSON FED 1-25A2	25	010S	020W	4301330120	5535	Federal	OW	P
WOODWARD 1-21A2	21	010S	020W	4301330130	5665	Fee	OW	P
LAMICQ 1-20A2	20	010S	020W	4301330133	5400	Fee	GW	P
L RBRTSN ST 1-1B2	1	020S	020W	4301330200	5410	State	OW	P
SMITH ALBERT 1-8C5	8	030S	050W	4301330245	5490	Fee	OW	P
FRESTON ST 1-8B1	8	020S	010W	4301330294	5345	Fee	OW	P
GEORGE MURRAY 1-16B1	16	020S	010W	4301330297	5950	Fee	OW	P
LAMICQ-URTY U 4-5A2	5	010S	020W	4301330347	5845	Fee	OW	P
H G COLTHARP 1-15B1	15	020S	010W	4301330359	5945	Fee	OW	P
STATE 3-18A1	18	010S	010W	4301330369	5810	Fee	OW	P
LAMICQ 2-6B1	6	020S	010W	4301330809	2301	Fee	OW	P
DILLMAN 2-28A2	28	010S	020W	4301330821	5666	Fee	OW	P
HAMBLIN 2-26-A2	26	010S	020W	4301330903	5361	Fee	OW	P
JOHN 2-3-B2	3	020S	020W	4301330975	5387	Fee	OW	P
LAMICQ-ROBERTSON ST 2-1B2	1	020S	020W	4301330995	5412	Fee	OW	P
UTE TRIBAL 2-7A2	7	010S	020W	4301331009	5836	Indian	OW	P
HATCH 2-3B1	3	020S	010W	4301331147	10615	Fee	OW	P
NORLING 2-9B1	9	020S	010W	4301331151	10616	Fee	OW	P
SHAW 2-27A2	27	010S	020W	4301331184	10753	Fee	OW	P
LAMICQ-URRITY 4-17A2	17	010S	020W	4301331190	10764	Fee	OW	P
LAMICQ 2-20A2	20	010S	020W	4301331191	10794	Fee	OW	P
FRESTON 2-8B1	8	020S	010W	4301331203	10851	Fee	OW	P
WISSE 3-35A2	35	010S	020W	4301331215	10925	Fee	OW	P
MECCA 2-8A2	8	010S	020W	4301331231	10981	Fee	OW	P
SWYKES 2-21A2	21	010S	020W	4301331235	10998	Fee	OW	P
SHERMAN 2-12B2	12	020S	020W	4301331238	11009	Fee	OW	P
DUNCAN 4-2A2	2	010S	020W	4301331276	11258	Fee	GW	P
HAMBLIN 3-9A2	9	010S	020W	4301331278	11094	Fee	GW	P
BAR-F 2-5B1	5	020S	010W	4301331286	11113	Fee	OW	P
SMITH 2-9C5	9	030S	050W	4301331321	11245	Fee	OW	P
LORANGER 2-24A2	24	010S	020W	4301331322	11244	Fee	OW	P
UTE 2-6B3	6	020S	030W	4301331325	11446	Indian	OW	P
MCELPRANG 2-30A1	30	010S	010W	4301331326	11252	Fee	OW	P

Devon Energy Production Company, L.P. N1275 to Linn Operating, Inc N4115
Effective 8/29/2014

Well Name	Section	Township	Range AP	API Number	Entity	Mineral Lease	Well Type	Well Status
SMITH 2-7C5	7	030S	050W	4301331327	11324	Indian	OW	P
SMITH 2-18C5	18	030S	050W	4301331328	11336	Indian	OW	P
UTE 2-24A3	24	010S	030W	4301331329	11339	Indian	OW	P
UTE 5-19A2	19	010S	020W	4301331330	11277	Indian	OW	P
EDWARDS 3-10B1	10	020S	010W	4301331332	11264	Fee	OW	P
SUNDANCE 4-15A2	15	010S	020W	4301331333	11269	Fee	OW	P
LORANGER 6-22A2	22	010S	020W	4301331334	11335	Fee	OW	P
COX 2-36A2	36	010S	020W	4301331335	11330	Fee	OW	P
SMITH 2-6C5	6	030S	050W	4301331338	11367	Indian	OW	P
FRESTON 2-7B1	7	020S	010W	4301331341	11338	Fee	OW	P
PEARSON 2-11B2	11	020S	020W	4301331356	11359	Fee	OW	P
CHAPMAN 2-4B2	4	020S	020W	4301331378	11485	Fee	OW	P
LAMB 2-16A2	16	010S	020W	4301331390	11487	Fee	OW	P
LABRUM 2-23A2	23	010S	020W	4301331393	11514	Fee	OW	P
POWELL 2-16B1	16	020S	010W	4301331820	12342	Fee	OW	P
BOWMAN 5-5A2	5	010S	020W	4301332202	13043	Fee	OW	P
BOREN 4-9A2	9	010S	020W	4301332203	13079	Fee	OW	P
BLANCHARD 3-10A2	10	010S	020W	4301332223	13149	Fee	OW	P
SQUIRES 3-8A2	8	010S	020W	4301332227	13176	Fee	OW	P
BROWN 3-4A2	4	010S	020W	4301332684	14673	Fee	OW	P
GALLOWAY 3-11B2	11	020S	020W	4301334304	18527	Fee	OW	P
OWL AND THE HAWK 3-9C5	9	030S	050W	4301351214	18649	Fee	OW	P
Bingham #3-4B1	4	020S	010W	4301351464	18825	Fee	OW	P
RED MOUNTAIN 3-5B1	5	020S	010W	4301351632	18954	Fee	OW	P
MECHAM #3-1B2	1	020S	020W	4301351844	19082	State	OW	P
MIKE AND SHELLEY #3-4B2	4	020S	020W	4301351845	19083	Fee	OW	P
RBRTSN UTE ST 1-12B1	12	020S	010W	4304730164	5475	Fee	OW	P
MAY UTE FED 1-13B1	13	020S	010W	4304730176	5435	Fee	OW	P
COOK 1-26B1	26	020S	010W	4304731981	11212	Fee	OW	P
CHRISTIANSEN 2-12B1	12	020S	010W	4304732178	11350	Fee	OW	P
RICH 2-13B1	13	020S	010W	4304732744	12046	Fee	OW	P
THOMAS 4-10B1	10	020S	010W	4304734080	13284	Fee	OW	P
HAMAKER 3-12B1	12	020S	010W	4304752294	18650	Fee	OW	P
BETTS 2-26B1	26	020S	010W	4304752435	18698	Fee	OW	P
STATE 1-10A2 (3-10C)	10	010S	020W	4301330006	5860	State	GW	S
L BOREN U 6-16A2	16	010S	020W	4301330123	5750	Fee	OW	S
UTE TRIBAL 1-6B3	6	020S	030W	4301330136	5705	Indian	OW	S
MAUREL TAYLOR FEE 1-36A2	36	010S	020W	4301330143	5525	Fee	OW	S
CAMPBELL UTE ST 1-7B1	7	020S	010W	4301330236	5295	Indian	OW	S
D L GALLOWAY 1-14B2	14	020S	020W	4301330564	5965	Fee	OW	S
MARK 2-25A2	25	010S	020W	4301331232	10986	Fee	OW	S
MITCHELL 2-4B1	4	020S	010W	4301331317	11231	Fee	OW	S

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION AND SERIAL NUMBER: See Attached Well List

SUNDRY NOTICES AND REPORTS ON WELLS

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

7. UNIT or CA AGREEMENT NAME:

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ OTHER See Attached Well List

8. WELL NAME and NUMBER: See Attached Well List

2. NAME OF OPERATOR: LINN OPERATING, INC N4115

9. API NUMBER:

3. ADDRESS OF OPERATOR: 1999 Broadway, Suite 3700 CITY Denver STATE CO ZIP 80202

PHONE NUMBER: (303) 999-4275

10. FIELD AND POOL, OR WILDCAT: Bluebell/Altamont

4. LOCATION OF WELL

FOOTAGES AT SURFACE:

COUNTY: Duchsene/Uintah

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start:	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☑ OTHER: CHANGE OF OPERATOR
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Effective 08/29/2014, Change of Operator from Devon Energy Production Company, LP, to Linn Operating, Inc. is responsible under the terms and conditions of the leases for operations conducted on the leased lands or a portion thereof under their blanket state bond number LPM9149893.

Attached is a list of wells that are associated with this Change of Operator.

Devon Energy Production Company, LP N1275
333 West Sheridan Avenue
Oklahoma City, OK 73102-5015

John D. Raines
Vice President

RECEIVED
SEP 16 2014
DIV. OF OIL, GAS & MINING

NAME (PLEASE PRINT) Russell des Cognets II TITLE Asset Manager

SIGNATURE R des Cognets DATE 9/8/14

(This space for State use only)

APPROVED

OCT 08 2014

DIV. OIL GAS & MINING

BY: Rachel Medina

(5/2000) (See Instructions on Reverse Side)

Devon Energy Production Company, LP
Exisiting Well List for State/Fee/Indian Leases

Well Name	API #	Legal Location	Producing Status	Well Type	Lease Type	Field	State	County
BAR F 2-5B1	430133128600	005-002S-001W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
BINGHAM 3-4B1	430135146400	004-002S-001W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
BLANCHARD 3-10A2	430133222300	010-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
BOREN 1-14A2	430133003500	014-001S-002W	Shut-In	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
BOREN 3-11A2	430133119200	011-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
BOREN 3-15A2	430133008600	015-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
BOREN 4-23A2	430133011500	023-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
BOREN 4-9A2	430133220300	009-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
BOREN 5-22A2	430133010700	022-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
BOREN 6-16A2	430133012300	016-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
BOWMAN 5-5A2	430133220200	005-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
BROWN DOUG 2-4A2	430133001700	004-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
BROWN VICTOR C 1-4A2	430133001100	004-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
BROWN 3-4A2	430133268400	004-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
CAMPBELL UTE ST 1-7B1	430133023600	007-002S-001W	Shut-In	OIL	INDIAN	BLUEBELL ALTAMONT	UT	DUCHESNE
CHAPMAN 2-4B2	430133137800	004-002S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
CLYDE MURRAY 1-2A2	430133000500	002-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
COLTHARP 1-15B1	430133035900	015-002S-001W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
CORNABY 2-14A2 (RECOMP)	430133129900	014-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
COX 2-36A2	430133133500	036-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
DILLMAN 2-28A2	430133082100	028-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
DUNCAN 4-2A2	430133127600	002-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
EDWARDS 3-10B1	430133133200	010-002S-001W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
FRESTON STATE 1-8B1	430133029400	008-002S-001W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
FRESTON 2-7B1	430133134100	007-002S-001W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
FRESTON 2-8B1	430133120300	008-002S-001W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
GALLOWAY 1-14B2	430133056400	014-002S-002W	Shut-In	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
GALLOWAY 3-11B2	430133430400	011-002S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
HAMBLIN 2-26A2	430133090300	026-001S-002W	Shut-In	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
HAMBLIN 3-9A2	430133127800	009-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
HATCH 2-3B1	430133114700	003-002S-001W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
JOHN 2-3B2	430133097500	003-002S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
LABRUM 2-23A2	430133139300	023-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
LAMB 2 16A2	430133139000	016-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
LAMICQ ROBERTSON 1-1B2	430133020000	001-002S-002W	Producing	OIL	STATE	BLUEBELL ALTAMONT	UT	DUCHESNE

LAMICQ ROBERTSON 2-1B2	430133099500	001-002S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
LAMICQ URRUTY 3-17A2	430133009900	017-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
LAMICQ URRUTY 4-17A2	430133119000	017-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
LAMICQ URRUTY 4-5A2	430133034700	005-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
LAMICQ 1-20A2	430133013300	020-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
LAMICQ 2-20A2	430133119100	020-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
LAMICQ 2-6B1	430133080900	006-002S-001W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
LORANGER 2-24A2	430133132200	024-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
LORANGER 6-22A2	430133133400	022-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
MARK 2 25A2	430133123200	025-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
MCELPRANG 2-30A1	430133132600	030-001S-001W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
MECCA 2-8A2	430133123100	008-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
MECHAM VIRGIL B 1-11A2 SWD	430133000900	011-001S-002W	Injecting	SWD	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
MECHAM 3-1B2	430135184400	1-2S-2W	Producing	OIL	STATE	BLUEBELL ALTAMONT	UT	DUCHESNE
MIKE AND SHELLEY 3-4B2	430135184500	4-2S-2W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
MITCHELL 2-4B1	430133131700	004-002S-001W	Shut-In	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
MURRAY GEORGE 1-16B1	430133029700	016-002S-001W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
NORLING 2-9B1	430133115100	009-002S-001W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
OWL AND THE HAWK 3-9C5	430135121400	9-003S-005W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
PEARSON 2-11B2	430133135600	011-002S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
POWELL 2 16B1	430133182000	016-002S-001W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
RED MOUNTAIN 3-5B1	430135163200	05-2S-1W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
SHAW 2-27A2	430133118400	027-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
SHERMAN 2-12B2	430133123800	012-002S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
SMITH ALBERT 1-8C5	430133024500	008-003S-005W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
SMITH 2-18C5	430133132800	018-003S-005W	Producing	OIL	INDIAN	BLUEBELL ALTAMONT	UT	DUCHESNE
SMITH 2-6C5	430133133800	006-003S-005W	Producing	OIL	INDIAN	BLUEBELL ALTAMONT	UT	DUCHESNE
SMITH 2-7C5	430133132700	007-003S-005W	Producing	OIL	INDIAN	BLUEBELL ALTAMONT	UT	DUCHESNE
SMITH 2-9C5	430133132100	009-003S-005W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
SQUIRES 3-8A2	430133222700	008-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
STATE 1-10A2	430133000600	010-001S-002W	Producing	OIL	STATE	BLUEBELL ALTAMONT	UT	DUCHESNE
STATE 3-18A1	430133036900	018-001S-001W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
SUNDANCE 4 15A2 (BOREN)	430133133300	015-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
SWD ANDERSON 2-28A2	430133034600	028-001S-002W	Injecting	SWD	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
SWD HAMBLIN 2-26A2	430133038900	026-001S-002W	Injecting	SWD	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
SWD SALERATUS 2-17C5	430133038800	017-003S-005W	Injecting	SWD	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
SWD 1-3A2	430133002100	003-001S-002W	Injecting	SWD	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
SWD 4-11A2	430132025500	011-001S-002W	Injecting	SWD	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE

SWYKES 2 21A2	430133123500	021-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
TAYLOR MAUREL FEE 1-36A2	430133014300	036-001S-002W	Shut-In	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
TOMLINSON 1 25A2	430133012000	025-001S-002W	Producing	OIL	INDIAN	BLUEBELL ALTAMONT	UT	DUCHESNE
UTE TRIBAL 2-7A2	430133100900	007-001S-002W	Producing	OIL	INDIAN	BLUEBELL ALTAMONT	UT	DUCHESNE
UTE TRIBAL 5-19A2	430133133000	019-001S-002W	Producing	OIL	INDIAN	BLUEBELL ALTAMONT	UT	DUCHESNE
UTE 1-6B3	430133013600	006-002S-003W	Shut-In	OIL	INDIAN	BLUEBELL ALTAMONT	UT	DUCHESNE
UTE 2-24A3	430133132900	024-001S-003W	Producing	OIL	INDIAN	BLUEBELL ALTAMONT	UT	DUCHESNE
UTE 2-6B3	430133132500	006-002S-003W	Producing	OIL	INDIAN	BLUEBELL ALTAMONT	UT	DUCHESNE
WISSE 3-35A2	430133121500	035-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
WOODWARD 1-21A2	430133013000	021-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
BALLARD 2-15B1 SWD	430473235100	015-002S-001W	Injecting	SWD	FEE	BLUEBELL ALTAMONT	UT	UINTAH
BETTS 2-26B1	430475243500	26-2S-1W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	UINTAH
CHRISTENSEN 2-12B1	430473217800	012-002S-001W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	UINTAH
COOK 1-26B1	430473198100	026-002S-001W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	UINTAH
HAMAKER 3-12B1	430475229400	12-2S-1W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	UINTAH
MAY UTE FED 1-13B1	430473017600	013-002S-001W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	UINTAH
RICH 2-13B1	430473274400	013-002S-001W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	UINTAH
ROBERTSON UTE STATE 1-12B1	430473016400	012-002S-001W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	UINTAH
THOMAS 4-10B1	430473408000	010-002S-001W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	UINTAH

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FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION AND SERIAL NUMBER: See Attached Well List

SUNDRY NOTICES AND REPORTS ON WELLS

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

7. UNIT or CA AGREEMENT NAME:

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ OTHER See Attached Well List

8. WELL NAME and NUMBER: See Attached Well List

2. NAME OF OPERATOR: LINN OPERATING, INC

9. API NUMBER:

3. ADDRESS OF OPERATOR: 1999 Broadway, Suite 3700 CITY Denver STATE CO ZIP 80202

PHONE NUMBER: (303) 999-4275

10. FIELD AND POOL, OR WILDCAT: Bluebell/Altamont

4. LOCATION OF WELL

FOOTAGES AT SURFACE: [redacted]

COUNTY: Duchsene

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: [redacted]

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start: _____	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion: _____	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☑ OTHER: CHANGE OF OPERATOR
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Effective 08/29/2014, Change of Operator from Devon Energy Production Company, LP, to Linn Operating, Inc. is responsible under the terms and conditions of the leases for operations conducted on the leased lands or a portion thereof under their blanket state bond number LPM9149893 .

Attached is a list of Applications for Permit to Drill (APD) that are associated with this Change of Operator.

Devon Energy Production Company, LP
333 West Sheridan Avenue
Oklahoma City, OK 73102-5015

John D. Raines
Vice President

NAME (PLEASE PRINT) Russell des Cognets II TITLE Asset Manager

SIGNATURE [signature] DATE 9/08/14

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APPROVED

OCT 08 2014

DIV. OIL GAS & MINING

BY: Rachael Medina

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DIV. OF OIL, GAS & MINING

(5/2000) (See Instructions on Reverse Side)

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5. LEASE DESIGNATION AND SERIAL NUMBER:

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT or CA AGREEMENT NAME:

1. TYPE OF WELL: OIL WELL ☑ GAS WELL ☐ OTHER

8. WELL NAME and NUMBER: Misc.

2. NAME OF OPERATOR: LINN OPERATING, INC.

9. API NUMBER:

3. ADDRESS OF OPERATOR: 1999 Broadway, Ste #3700 CITY Denver STATE CO ZIP 80202

PHONE NUMBER: (303) 999-4016

10. FIELD AND POOL, OR WILDCAT: Bluebell

4. LOCATION OF WELL

FOOTAGES AT SURFACE:

COUNTY: UINTAH

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: 14 1S 2W

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start:	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☑ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☑ OTHER: Excluded wells from Change of Operator
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Do not process Change of Operator from Devon Energy Production Company, LP to LINN Operating, Inc. for the following wells.

43-013-31192	BOREN 3-11A2	Oil Well	Producing	BLUEBELL	DUCHESNE	1S-2W	Sec 11
43-013-51846	MIKE AND SHELLEY #4-14A2	Oil Well	Approved permit (APD)	BLUEBELL	DUCHESNE	1S-2W	Sec14
43-013-31299	CORNABY 2-14A2	Oil Well	Producing	BLUEBELL	DUCHESNE	1S-2W	Sec 14
43-013-30035	FLY/DIA L BOREN 1-14A2	Oil Well	Shut-In	BLUEBELL	DUCHESNE	1S-2W	Sec 14

The Devon transaction to Linn Energy allowed EP Energy to exercise their preferential right to purchase the leases and wells in Sections 11 amd 14 of T1S, 2W so EP Energy now owns these wells.

NAME (PLEASE PRINT) Debbie Chan TITLE Reg. Compliance Supervisor

SIGNATURE DATE 9/23/2014

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